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THE TRAGEDY OF APPENDICITIS*

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It is considered of sufficient importance to again discuss the subject of appendicitis, when more than twenty thousand persons die each year from this disease. Approximately sixty-five per cent of the people who die from appendicitis are between the ages of fifteen and thirty. This makes it a more serious problem than if it attacked the people in the later decades of life, although it does not lessen the responsibility of the physician.

What is the reason for the high mortality? Why is the death rate not materially lessened, when people are becoming better educated in medical matters and have so many opportunities to familiarize themselves with medical matters pertaining to their health, and to the details of prophylaxis, diagnosis and treatment?

Appendicitis cases, especially acute cases, are usually seen first by the family physician, and his is the great responsibility. The surgical treatment of these cases is often not in the hands of experienced surgeons, but successful operations have often been performed by those with very little experience, and if an early diagnosis is made and an operation done by a conscientious, young, but not too experienced surgeon, the result will be better than when late operations are performed by the most experienced surgeons.

The fact should be firmly fixed in the mind of the medical profession that appendicitis is a surgical disease. An important

factor in the high death rate is oft times the meddlesome treatment given by relatives or used by patients themselves for abdominal pain. Probably the most pernicious of these methods is the use of cathartics. Cathartics taken by the patient are not as dangerous as those given by the medical attendant, for the patient usually takes it at the onset of the attack of pain. But when it is given by the physician it is usually given several hours after the onset of the attack, the appendix may be friable and distended, and local peritonitis be present, then we see an acute localized appendicitis become a diffuse peritonitis, caused largely by the use of cathartics.

We believe it would be a good thing for physicians to instruct their patients never to take a cathartic or never to give their children a cathartic in the case of moderate or severe abdominal pain, without first consulting their medical attendant.

Another harmful and dangerous procedure is the use of the ice bag for patients who have acute abdominal pain. We do not believe the ice bag is of any value in the treatment of acute appendicitis, but is

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an agent of delay, and masks the symptoms. It may relieve the pain, but it does not stop the progress of the disease. Patients often apply an ice bag themselves, or are advised over the telephone by a physician to apply one, and they are lulled into a false security by the feeling that something is being done, whereas the infection in the appendix goes right on with its ravages, and the result is acute peritonitis.

Another dangerous procedure in the diagnosis of appendicitis is to depend too much upon the blood count. It is much more important to secure a careful clinical history of the disease from the patient, than to lose time on blood counts and repeating blood counts, for in many cases the appendix could have been removed at once, without the onset of complications. The writer is aware that the blood count in nearly all cases of acute appendicitis is elevated, especially the polymorphonuclear count; the patient may already have a gangrenous or perforated appendicitis. The average blood count accompanying appendicitis when the appendix is not in the usual position over many hundreds of cases will be from 10,000 to 14,000 total white cells, and the differential count from 75 to 86 per cent polys.

There are three or four quite common positions for the appendix to occupy and it is important for the physician to familiarize himself with these positions, and not to expect always to find muscle spasm over McBurney's point: (1) High rectus position, occupying the right kidney fossa; (2) low right position, where the appendix is walled off, and pain and spasm are near the crest of the ileum; (3) the so-called, pelvic appendicitis where the appendix is under the bladder low in the right lower quadrant, three or four inches below the normal position; (4) the appendix which occupies the left lateral position where the cecum may be rotated toward the left, and the tenderness in such a position will be well over to the left side of the abdomen. In all of these unusual positions, the symptoms will vary. They usually do not have vomiting until after peritonitis begins. The abnormal positions also make a very nice point for differential diagnosis which must be carefully made. If physicians would always keep in mind that in acute appendicitis of the severe types, instead of symp-

toms of pain, nausea or vomiting, and spasm over the site of the appendix, the patient may give only a history of having low grade abdominal pain with no nausea or vomiting, and with an almost normal leukocyte count. In our experience there is one sign that we think is almost infallible, and that is the local spasm, found by careful examination. We have never failed to elicit such local spasm if the patient has a well marked acute appendicitis. Subacute symptoms in many of these patients will be more or less abdominal pain, which may be a low grade pain and may seem inconsequential. The ice bag destroys this very valuable symptom.

Temperature from 99 to 101 is usually found in severe cases within twenty-four hours, but may be found normal in early severe cases.

In many cases, especially those retrocecal or in the right iliac fossa, a patient's pain may be so vague that he will not call in his physician until it has been present for two or three days, but it will be found that he has a well marked local spasm, if a careful examination is made.

Nausea and vomiting are found in from 60 to 70 per cent of acute cases, especially in young people, but many other cases have only the symptom of abdominal pain, and if the local spasm is there on examination the physician will make no mistake in diagnosis.

When a diagnosis has been made of acute appendicitis removal of the appendix before complications ensue is always advisable. In cases where there is a general infection present, where the patient's illness may have begun with a sore throat or general malaise, which may accompany epidemic infections especially in the winter time, and when the temperature is over 100, then appendix symptoms may be due to secondary involvement of the appendix and the general infection is really the cause of the patient's symptoms. Such patients should always be treated as appendix suspects, avoiding cathartics, avoiding all food until repeated examinations have been made. Many lives will be saved if all such cases are treated as appendicitis suspects.

We always advise internes who have come direct from the medical schools, to first consider appendicitis where there is abdominal pain. We advise them to make

a careful examination, and if the diagnosis is appendicitis, the appendix should be removed before it becomes gangrenous or ruptures. Then the mortality instead of being over twenty thousand a year would not be one-tenth of that.

The most important symptom in unruptured cases is that of pain localized over the appendix, no matter what its position. The often present sign of a ruptured or gangrenous appendix is that of repeated nausea and vomiting, and increased spasm with frequently chills or chilly sensations. If the patient has been examined by the physician previously and local tenderness and spasm found, a later examination will reveal that this area of spasm has increased. Patient may then have retraction of his right leg, and the position will be one where he is trying to favor his affected side, and the onset of a chill shows the presence of spreading infection, and is always considered a dangerous symptom.

If an operation can be performed for acute appendicitis within twenty-four to thirty-six hours from onset, in a good hospital, by a fairly well trained surgeon, the mortality risk is practically nil.

Mortality rate is highest in operations for acute appendicitis with complications, that are performed on the third or fourth day or later in the disease. The management of late cases of associated peritonitis, either local or general, is very important. It seems advisable to withhold operations on patients with marked distention, who have vomiting, and with temperature over 101, who have been sick several days. We believe that these desperately ill patients with complications of appendicitis should be treated medically, and later have an appendectomy. Withhold everything by mouth, cathartics, food and water. Intravenous glucose and intravenous or subcutaneous saline solution is freely used. If possible the patient should be taken to a well equipped hospital, as the necessary treatment can not be so well carried on at home.

The coöperation of a graduate nurse is important. Drainage of stomach and duodenum by a Levine tube inserted through the nose, has done more than anything else for desperately ill patients. We not only use the Levine tube for drainage but to instill small dosage of hypertonic salt solution or glucose for the stimulation of the

patient. If this is given in small amounts, one or two ounces at a time, it will not stimulate peristalsis, but will aid in maintaining the normal tone. The Fowler position is always used. We recommend changing the duodenal tube every twenty-four or thirty-six hours and vaseline should be applied to both nostrils every four or six hours. Hot massive packs should be placed over the entire abdomen. We do not advise the use of turpentine stupes, unless they are used by a competent nurse, or unless the doctor is seeing the patient frequently. All enemata are prohibited. A rectal tube may be inserted and left in situ. A small tube acts well and irritates the patient less than a large tube. Hypertonic salt solution 2 per cent or 10 per cent may be tried in the rectum, not giving over two or three ounces. This will aid in the expulsion of flatus. It is surprising how quickly very desperately ill, even dying patients improve under this regime. We do not advise operation for four to eight weeks in these cases, but do consider it of the utmost importance that the appendix be removed at the end of that time, to avoid any repetition of such an attack. The above treatment is very important for obese patients on whom operation cannot be performed in the presence of diffuse peritonitis.

It is especially important in children, elderly people and obese patients to have an early operation, before complications set in, as they do not stand peritonitis well. A case of gangreneous appendicitis which might be of moderate severity in a thin young healthy person, might have a high mortality rate in children, elderly people or the obese. In these late cases who improve after medical management, we should not operate on patients who are having well localized abscesses.

When cases are suitable, excepting in very young children and very old people, spinal anesthesia is the safest and the best anesthesia for operations for acute appendicitis. For children under twelve years old, we usually advise gas and ether. People in the seventies if there is any question of bronchial asthma or any tendency to bronchitis, local anesthesia is used and is very satisfactory. It is surprising what easy relaxation can be secured with spinal anesthesia, and what an easy operation for

acute appendicitis can be done on these patients. We can do more satisfactory work with an incision half as large, as with the use of other anesthetics. Packs should be avoided in the peritoneal cavity as much as possible, as packs pushed about in the peritoneal cavity may spread infection and cause spread of local peritonitis by injury to the visceral peritoneum. In the cases of local abscess or diffuse appendicitis where the appendix is perforated we have for a long time advised against the use of rubber tube drainage. However, if the appendix is ruptured less than twenty-four hours no drainage is used in some patients. If the appendix has ruptured and fecal concretions are found in the abscess cavity then drainage is advised. The use of soft rubber drainage tissue is very satisfactory, we no longer use stab drains or multiple incisions, and never use gauze packs. If possible a piece of the omentum can be brought down to the incision, and this will be found to be the best method of drainage in very seriously ill patients. Sometimes we leave the incision entirely open using no sutures whatsoever. Many of these patients do remarkably well, and in most of them the incision will begin healing after a few days when the soft drains are removed. If sutures are used, every surgeon of experience will recall many cases where the infection has been spread to fascia, muscle and fat along the suture line.

After operation this type of patient has the same treatment postoperatively, namely, Fowler's position. The distention is treated by cecostomy, inserting a small size No. 20 French catheter with two openings, ends removed, inserted through cecum into the terminal ileum, held in position with No. 0 or No. 1 chromic catgut sutures. I do not recall any case where fistulae occurred after this procedure.

Enterostomy is often life saving. The enterostomy tube can be used for hypertonic saline solution and instillation of glucose which is usually begun four to six hours after the operation. The tube is clamped between periods of instillation.

First we allow the tube to be emptied in a small sterile basin, then with a glass tube using a small pitcher two or three ounces of saline or glucose and saline mixed is allowed to flow into the glass tube attached to the enterostomy tube. The tube is then clamped off for two or four hours, then gas and fecal matter are allowed to escape. This procedure is kept up for two or three days, or as long as necessary. The catheter usually drops out the seventh to tenth day. This part of the technic alone has saved many lives, and more lives would be saved by early enterostomy, which in our experience never does any harm, but delayed enterostomy like delayed diagnosis is one of the chief reasons for the high mortality rate.

Morphine is valuable for patients who are too sick to have operation, or are to have delayed operation, and also for patients who have been operated upon in dosage of 1/6 grain morphine every three or four hours if necessary. It does not cause paralysis of the bowel but acts as an aid in restoring normal tone. Hot packs used especially as pre-operative treatment are also continued after operation.

Pitressin is given on the operating table, one ampule and repeated every three or four hours for twelve or more doses. Also an ampule of combined tetanus gas gangrene vaccine immediately following operation in all perforative cases. These agents are invaluable in the surgeons' armamentarium.

It often happens that physicians are called late, where they find evidence of peritonitis, and there has been no history of appendicitis so far as can be determined. The writer wishes to call especial attention to the above types of appendicitis, as factors in causing peritonitis. Early diagnoses and early operation in all patients with severe appendicitis will markedly lower the mortality rate.

Careful and individual attention to details preoperatively and post-operatively and a careful surgical regime are important factors in the care of the seriously ill patient.

LIVER DEATHS FOLLOWING SURGERY OF THE GALLBLADDER*

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Recently many articles have appeared in medical literature upon the so-called "Liver Deaths" or "High Temperature Deaths" following operations upon the biliary tract. Before discussing the pathology of this type of case, however, we should consider briefly the physiology of the liver, to discern, if possible wherein any fault of hepatic function might be responsible for a fatal outcome. The known functions of the liver may be enumerated as follows: (1) The secretory or excretory, viz.—bile; (2) the metabolism of (a) protein, (b) fat, (c) carbohydrates, (d) bile pigments; (3) the storage of glycogen; (4) the maintenance of the normal blood sugar level; (5) the detoxifying function; (6) phagocytosis; (7) destruction of erythrocytes; (8) the control over blood clotting.

It is obvious that interference with the excretion of the bile, the digestion of protein, fats, and carbohydrates, or the storage of glycogen, or the maintenance of the blood sugar level and other minor functions, will not cause sudden death following operation. This leaves the function of detoxification alone to be considered.

Shutz, Helwig, and Kuhn¹⁰ have reported four cases of "liver deaths" in which clinical and autopsy studies have revealed definite reasons for early death following operation upon the biliary tract. The principal points in their case histories briefly stated were as follows: (1) Long standing gallbladder disease; (2) postoperative high rise in temperature and pulse rate; (3) progressive oliguria with albumen, casts and erythrocytes in the urine followed by (4) anuria, delirium, coma and death within forty-eight hours.

Necropsy revealed: (1) Low grade generalized edema; (2) operative wounds showing little or no healing; (3) gastro-intestinal tract containing blood in large amounts; (4) liver showing leukocytic infiltrations, necrosis, interstitial parenchymatous and fatty changes; (5) kidneys revealing parenchymatous swelling, tubular epithelial degeneration and actual necrosis.

In their cases, they believe there was no impairment in glycogenesis as revealed by blood sugar determinations; no evidence of failure to deamidize amino acids, since urea

formation was unhampered; excretion of bile was not interfered with because bile was found in the stools in every case. They arrived at the conclusion that the damage to the kidneys was caused by some toxin elaborated by the diseased liver which acted specifically upon the kidneys.

Stanton⁸ has reported 500 fatal cases in 10,000 gallbladder operations in which fifty-eight individual causes were designated as the lethal factor. The principal causes of death given in the order of their frequency were: (1) Peritonitis, (2) pneumonia, (3) embolism, (4) cardiac failure, (5) spontaneous perforation, (6) sepsis, (7) renal failure, (8) shock and hemorrhage.

Heyd,⁶ commenting upon Stanton's classifications, states "that in analyzing our cases we were impressed with a small group of fatal cases in which the cause of death could in no way be placed in such obvious types of mortality. There was about this group of cases an unexplained chemical mechanism as the outstanding feature in the production of death which was directly sequential to operative intervention. Chemical examination of the blood revealed a normal icteric index and a gradual ascending scale of urea nitrogen. Clinical examination of the lungs gave no evidence of pneumonia. These patients died within thirty-six hours."

In the two cases herein presented, careful physical and laboratory examinations were made. There appeared to be no doubt that these patients were in good physical condition for the operation. The surgical procedure required a comparatively short time, and no complications arose during the operation. Both cases were drained. Post-operatively, there was no hemorrhage, peritonitis or immediate shock. Each case developed a high temperature with rapid pulse,

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oliguria, anuria, delirium, coma, and death within forty-eight hours. These cases are similar to many others that have been reported.

Evarts Graham, several years ago, began the use of phenoltetraiodophthalein as a test for liver function preparatory to operation upon the biliary tract. While it is true that due to the multiple functions of the liver, there is no one test which is accurate or all inclusive in the estimation of liver function, nevertheless, Graham finds in the use of this dye the possibility of determining with reasonable accuracy the cases which will bear operation well, and those where operation will probably prove serious, if not fatal.

He concluded that when a dye retention above 35% was present (readings taken one half and one hour after the injection of the dye) it was found best to postpone operation and during the intervening period to administer as much glucose and saline solution by proctoclysis and hypodermoclysis as the patient could comfortably retain. Then after a few days the test was repeated and if it was found within normal limits, cholecystectomy was performed; otherwise, operation was again postponed. In this manner Graham has reduced his mortality in this type of case from 7 per cent to a fraction over one per cent. Operative mortality according to available figures in the literature indicate a death rate ranging from 2.2 per cent to 5.3 per cent. If such a test as Graham's can reduce these figures to one per cent it is certainly worthwhile. (It should be stated that the test should not be used in acute cholecystitis or when the patient is jaundiced.)

It has been mentioned above that the liver has many functions and that the dye retention test is the test for one function only, namely, detoxification. Other tests for liver function are:

1. Galactose tolerance test for glycogenic function.

2. The determination of lactic acid in the blood. Increase in this acid indicates rapid destruction of glycogen and also an early toxemia. It is especially useful as a prognostic acid in patients whose condition is complicated by jaundice.

3. The amino acid test for protein.

4. The van den Berg and icterus index

tests to determine the bilirubin content of the serum and which relate only to bile metabolism.

5. The test of Harrop-Barron for bilirubin retention.

6. The cholesterol ester test. It has been stated that the estimation of cholesterol runs parallel to the severity of the liver damage as indicated by the clinical signs and the various tests of liver function.

7. The cinchophen test is stated to be an excellent test for altered metabolism of the liver cells. Of the cinchophen and bilirubin tests, Weiss states that he has found these two tests among the most reliable in estimating the functional capacity of a slightly damaged liver.

8. Blood clotting index, indicating abnormalities of blood coagulation which may be due to liver dysfunction.

I wish to present two case histories bearing upon the problem of the unexplained deaths following surgery upon the biliary tract. These histories are as follows:

Case 1.—Mrs. D. P., aged sixty-seven, widow, had an operation in 1914, for empyema of the gallbladder, cholecystostomy with removal of one small calculus, also a ventral fixation and perineorrhaphy in 1917. She was well following cholecystostomy until one year ago when she developed attacks of vomiting and diarrhea, with pain over the gallbladder region. During the past two weeks she has had a fever, but no chills. Physical examination reveals tenderness over gallbladder. The heart and lungs are negative; blood pressure systolic 180, diastolic 140. Urine negative. Blood coagulation time, 3 minutes, 45 seconds; hemoglobin, 93 per cent; erythrocytes, 4,380,000; leukocytes, 8,000; polymorphonuclears, 70 per cent; small lymphocytes, 25 per cent; large lymphocytes, 5 per cent. Temperature, 98°; pulse, 86 on morning of the operation. Clinically, this patient appeared to be in excellent condition for operation. Cholecystectomy was performed March 13, 1919. A distinctly diseased gallbladder was found, with adhesions to the duodenum. Operation required only thirty minutes' time with no immediate postoperative shock. Her temperature rose to 103.6°, sixteen hours after operation, with a corresponding rise in pulse rate and she died at the end of twenty-four hours. No autopsy was permitted.

Case 2.—Mrs. A. B., aged forty-five. The family history was negative. She had had mild attacks of colitis with symptoms of cholecystitis for several years; also pain over gallbladder region with occasional vomiting. She was sent to Grace Hospital where she was placed under medical management for several weeks, including duodenal drainage with a Rehfuß tube. Medical treatment produced no improvement. Gastro-intestinal x-ray examination was negative. Urinary and blood findings were within normal limits; the blood pressure averaged 130/80; heart and lungs negative; temperature 98°, pulse 70 on the morning of operation. The operation was performed on the morning of February 9, 1927. Cholecystectomy and appendec-

tomy were performed. The gallbladder was yellowish-gray in color, twice normal size with a thickened wall, adherent to the stomach and duodenum, but contained no calculi. The liver was macroscopically normal. The appendix was held down by a short mesentery, but no adhesions or other evidence of chronic inflammatory change was noted. Operation time was thirty-five minutes. This patient did well for the first 24 hours, then followed delirium with high temperature (107°), oliguria, anuria, uremia, coma, and death at the end of forty-eight hours. N. P. N., on February 10, was 49 mg. per 100 c.c. On February 11, urinalysis revealed a trace of albumen with pus, R. B. C. and granular casts. Both these patients were in excellent physical condition prior to operation.

The question arises as to the cause of death in the two cases. Unfortunately, autopsy was not permitted in either case and postoperative life in both instances was so brief that little time remained for clinical observation or laboratory tests.

The purpose of presenting these cases at this time is to stimulate free discussion and interchange of opinion, in the hope that some definite plan for a more careful study of all cases of cholecystic disease before operation may be formulated. For a surgical procedure so simple as the average cholecystectomy it has always appeared to me that the mortality has been too high. During the past few years I have been convinced that there has been some interference with the chemical mechanism of the liver which has been responsible for the so-called "liver deaths." The great difficulty has been to determine the functional efficiency of the liver prior to operation. In this connection Judd⁷ states, "anatomically the liver is of special interest in surgery because it is a single vital organ and because it has a double blood supply. Physiologically it is important because of the multiplicity of its metabolic functions. Pathologically it is important because it is subject to many diseases of infectious, of vascular, metabolic and neoplastic origin. Surgically it is important for all these reasons."

Heyd,⁵ in 1930, wrote, "in any laparotomy, with or without exposure of the liver, there are a great many possible physical, chemical, infectious, mechanical and toxic traumatic plus possible leakage from drainage plus varying degrees of dehydration. The sum total of these surgical accompaniments may not necessarily be lethal to the ordinary, fairly normal surgical subject, but may often prove fatal to the handicapped patient or the patient with a depressed or impaired liver competency.

Deaver,¹ Eiss,² Graham,³ Helwig,⁴ Schultz,⁹ et al., have also written upon this subject. In the treatment of liver dysfunction, the administration of large amounts of carbohydrates is of special importance. For many years it has been recognized that the depletion of glycogen, stored in the liver, definitely reduces its functional efficiency and that the administration of carbohydrates and the building up of the glycogen store of the liver, hastens repair of liver damage. Therefore, it would seem best in all cases, first to determine the function of the liver by tests already known, then to administer large quantities of glucose or dextrose without the use of insulin, and to combat dehydration by the use of known quantities of fluid. Therapy should be controlled by the repeated chemical analyses of the blood. Blood chlorides should also be estimated and if as low as 250, saline should be given intravenously.

One other factor is the selection of a proper anesthetic. Anesthetics which produce anesthesia by rectal or colonic administration carry with them the possibility of increased insult to liver physiology. Spinal anesthesia does not add additional trauma to the liver but is not always satisfactory and is not without danger. Nitrous oxide gas, with the addition of small quantities of ether plus local anesthesia is, in my opinion, the safest type of anesthesia. Blood transfusion and the intravenous administration of calcium chloride are at times valuable in the preparation of patients for operation.

The study of liver function easily becomes a large field for research. When we are able to estimate the liver function more accurately, not only will surgery of the biliary tract, but all surgery, and especially intra-abdominal surgery, be placed upon a much safer basis.

In conclusion I would like to stress the following as safety factors:

1. Careful routine examination of the patient before laparotomy, including indicated laboratory procedures, for the purpose of ascertaining adequate liver function.
2. Maintenance of normal water balance and blood chlorides.
3. Protection of liver function by the increase of the glycogen reserve of the liver.

4. Blood transfusion and intravenous calcium chloride when necessary.

5. An anesthetic which will not cause additional damage to an already overburdened liver.

6. A carefully performed operation, done in a reasonably short time.

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THE FEEDING OF THE PREMATURE INFANT*

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The feeding of premature infants should be a simple and easy procedure but must be carried out intelligently. Of all periods of life this is one in which errors of omission and commission are of serious import. One may experiment and leave for nature to tide over an older infant but not so with the delicate premature baby who demands the most exact and specialized care. Though this is necessary one need not be a specialist to know how to handle these cases.

In the past decade the mortality rate among premature babies has been considerably decreased, so that now rates varying from 20 to 35 per cent are not unusual but rather the rule as compared with the previous much higher rates. Variation in period of gestation and weight of the infant determine, to a large degree, the prognosis of the individual case, yet the careful regulation of the feedings undoubtedly plays a significant and important rôle.

There are many types of milk aside from breast milk that one may use in feeding premature babies. Methods of feeding vary but there should be constancy, in following those adopted, upon which much of the success obtained depends, providing they meet all other requirements.

I present a very simple regime now in use at the Cook County Children's Hospital in Chicago, which has given uniformly good results. We believe that our success was largely due to adhering closely to a stereotyped schedule except on occasions where some changes had to be made. Such occasions were rare. Of 274 consecutive premature babies admitted to Dr. Blatt's service, over a period of twelve months,

there was a total mortality rate of 32.5 per cent. Excluding twenty-four hour deaths it was 21.6 per cent (Table I).

TABLE I.

Month	Admissions	Total Deaths	24 Hour Deaths
Aug., 1933	18	6	2
Sept.	18	7	1
Oct.	19	5	3
Nov.	28	7	1
Dec.	26	5	1
Jan., 1934	24	7	2
Feb.	16	4	2
Mar.	27	8	5
Apr.	23	12	6
May	26	10	4
June	24	12	8
July	25	6	3
Total	274	89	38
Mortality		32.5%	13.9%
Excluding 24 hour deaths—		21.6%	

All premature infants born at the Cook County Hospital are immediately transferred to the Pediatric service and placed in the premature station. Nothing is given to the infant for the first twenty-four hours, and then he is offered 2 c.c. of boiled water or weak tea, alternating at one and one-half hour intervals with the same amount of breast milk. The amount of each feeding is gradually increased so that by the end of the second twenty-four hours, he is

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receiving 15 c.c. of breast milk and about 10 c.c. of water. From this time on, the feedings are not increased unless the weight becomes stationary or the infant seems hungry and can take more. They are now on a three-hour schedule, receiving eight feedings during the twenty-four hours. To meet the fluid requirement of the body, water was given between feedings three to four times daily. No attempt was made, in the first few weeks of life, to meet the caloric requirements which have been very variable in our experience. We have found some infants gaining nicely on only 35 calories per pound body weight while others demanded as many as 60 to 70 calories. The total maximum daily increase in the quantity of feedings when that was indicated was never more than one ounce, that is, one-eighth ounce at each feeding. The feedings were usually given by a medicine dropper with a rubber tube attached. Most of the infants readily took their nourishment this way. Others who had difficulty in swallowing and tired quickly were fed by gavage. Often the two methods were combined. At all times our nurses were instructed not to force feedings. If the baby seemed to take his feeding reluctantly a ten to fifteen minute rest period was allowed and the feeding then resumed. In this way we were able to give all of the breast milk and also avoid regurgitation or vomiting. When vomiting did occur, it was a signal to reduce the quantity.

After the third week of life, an attempt was made to meet, more nearly, the caloric requirement of the infant. When the infant reached about five pounds in weight he was gradually placed on a home-going formula where the mother's milk supply could not readily be maintained. In choosing a substitute for breast milk, we preferred evaporated milk, since it produced gastro-intestinal disturbance less frequently and was readily taken. Our plan was to substitute one ounce of evaporated milk for 2 ounces of breast milk at a time until the infant was entirely on an evaporated milk formula. Dextri maltose No. 2 was also added about the same time, starting with one-eighth ounce and increasing to one ounce. By the time the infant was six pounds in weight he was entirely on an evaporated milk formula with dextri maltose and received six to seven feedings a

day. The average gain in weight was three to five ounces weekly and the average stay in the hospital was about three months.

Cod liver oil and orange juice were added to the formula at about the third week of life in increasing doses. Where cod liver oil was not tolerated viosterol was given.* Cod liver oil is to be preferred since viosterol has not uniformly given as good results in premature infants as shown by recent investigations.² Iron was not added to the diet. Several years ago, Dr. Blatt and his associates carried on studies on the effect of iron on the blood picture of premature infants and they could find no appreciable change.¹ On occasions we added lactic acid or skim lactic acid milk to the formula to correct tendencies towards loose stools. Occasionally we observed an increase in weight by merely adding lactic acid, probably due to better assimilation of the food.

Diarrhea was a danger signal. Instructions to the nurse in charge of the premature station were that following a loose stool the next feeding was to be omitted and only water or weak tea given. If the diarrhea persisted, starvation periods of eight to twelve hours were instituted and fluids were given subcutaneously, and where the occasion demanded, blood intramuscularly. We did not resort to transfusions. By using this simple regime of omitting feedings or short periods of starvation, most of the diarrheas were easily checked.

A point I would like to stress is that one should not be too anxious to have the infant gain weight during the first three weeks of life. An increase of even five ounces during this period was considered an excellent gain and we were not worried if this did not occur. In fact, in our group of cases, it was common to see the weight remain stationary or even a slight loss occur during this initial period of adjustment. To remember this will often prevent a lot of trouble. In his anxiety to have the infant gain weight, the physician may overlook the more important task of keeping him alive. Gastro-intestinal upsets are frequently fatal. Furthermore, repeated insults to the gastro-enteric tract may eventually lead to athrepsia.

This is not a fitting place to discuss the

*Mead's viosterol in halibut liver oil is now being used.

causes of death in our group of cases. They were due to complications beyond our control.

In conclusion permit me to emphasize two points: (1) The superiority of breast milk over other milks in feeding the premature infant and (2) the importance of

slowly increasing the feedings when such an increase was indicated.

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THE QUESTIONABLE RELATIONSHIP OF DIET TO SKIN DISEASES

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The question of food is a matter of great concern to everybody. The most finicky idiosyncrasies of people are expressed in their choice of diet, and diet is one of the first factors to be blamed for bodily disturbances. There is some question as to whether in popular belief there may not rest some basis for these ideas. Man has learned to distinguish between harmless and injurious factors.

We shall consider the immediate manifestation of cutaneous eruptions following the ingestion of a food as having a direct relationship to that item. The indirect relationship involves the production of cutaneous pathology through intermediate factors such as the chemical decomposition of food; enteric disturbances; perverted metabolism; the skin condition being a consequence of these factors.

Diet has been unjustly accused of many crimes of which it is innocent. The incomplete investigation of the relationship of diet to the dermatoses has resulted in many popular misconceptions. The investigations that have been more complete tend to eliminate diet as the basic factor in many cases. The tendency of believing the things one wants to believe is too easily followed. In the case of a student, for example, he had the delusion that his occasional herpes labialis was due to a pork idiosyncrasy inasmuch as the eruption was noticed 24-48 hours after he remembered having eaten pork. More careful observation of this, however, has abolished the idea of this idiosyncrasy because it has been noticed frequently that pork could be eaten with impunity, and that the herpes appeared irrelevantly to the pork meals; and that the herpes occurred during a debilitated state following lack of sleep or excesses of smoking. Many of the dermatoses attributed

to dietary causes will be found, on more careful observation, to be rather of organic origin.

There are certain foods, however, effect of which is so direct that little doubt is left as to their etiologic importance. Some examples of these foods are the crustaceans as lobster, crab, and shrimp; certain fishes and meats as pork and veal; eggs; strawberries. We had a patient in the clinic recently who, when asked as to her diet, mentioned that she "broke out so" on her arms when she ate certain foods. When asked to give the type of foods, she stated that strawberries, cucumbers and apples were especially responsible. She stated, also, that the eruption was manifest as early as one hour after meals and seldom later than three hours. Restraining from these few items, she is never bothered. There is a case encountered in the literature in which strawberries produced a violent urticaria and erythema as soon as the berries had entered the mouth.

F. L. Bartheme reports a case in which the association of Henoch's purpura and an allergic phenomenon are demonstrated. Skin sensitization tests were done on the patient, which showed a marked reaction to tomatoes, beef, wheat, and egg yolk. Abstinence for three days from these items resulted in improvement. Later when the

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patient ate ice cream containing egg she reacted with purpuric spots and abdominal pain.

B. Hajos reports a different type of case, interesting from this standpoint. A woman, thirty-four years old, owned an asparagus farm and had worked it for twelve years. In the past two years she suffered from an itching eczema on both hands and arms. Cutaneous tests revealed a positive reaction to asparagus. She was removed from the farm, treated, and recovered. Later, eating asparagus did not cause a recurrence of the eczema.

Reasonable doubt could easily be cast on both of these cases for want of more detailed information, yet on the face of the evidence presented, we can accept them as cases of food idiosyncrasy.

Certain poisons taken in with the food may give rise to conditions in which skin manifestations play an important rôle. In this connection may be mentioned ergotism and pellagra. Alcohol and "toper's nose" (acne rosacea) are commonly coupled in mind, although the latter may occur in individuals who have never used alcohol.

Foods causing an immediate response in the form of a dermatosis work their havoc on an allergic basis. W. Storm Van Leeuwen discusses this. He states that the allergic symptoms arise in two ways: (a) foods with uric acid compounds are least tolerated by allergics; and (b) from disordered purin metabolism. The instability of the vasomotor system is the factor in allergy, there being an increased permeability to the allergens. Dr. Van Leeuwen differentiates between allergy and anaphylaxis: allergy is an inherited phenomenon and is manifested on the first exposure to the allergens; whereas anaphylaxis is not inherited and is manifested on the second and subsequent exposures to the same protein. Allergic diseases are grouped by Van Leeuwen as those due to (a) animal protein, (b) foodstuffs, (c) bacteria, (d) drugs. In the direct relationship of diet to skin diseases we are dealing, in our opinion, with an allergic phenomenon due to foodstuffs. The strawberry rash, the uticarias, and the so-called idiosyncrasies are examples of this. The predisposing factor is a vasomotor instability which, as stated, can be inherited. We have an acquaintance who is susceptible to strawberries, getting

a rash very shortly after eating them. Her sister is susceptible in the same way to bananas, but not to strawberries. The acquaintance can eat bananas with impunity. This is an example of familial vasomotor instability, the exciting factor being different—strawberries in one case and bananas in the other. There can also be a seasonal and species variation in the effects of certain foods on the skin. J. C. White cites his own case in which he reacted to wild Swiss strawberries and not to the New England variety. A few years later when he returned to Europe he tested himself and found that the Swiss strawberries were harmless. There is, too, the effect of direct contact of certain items of diet with the buccal membrane. For example, the spices, peppers, and hot sauces (chemical and thermal) on the tongue and mucous membrane of the mouth may produce a severe erythema, burn, or ulceration. For a dietary item to have a direct etiologic relationship to the skin disease, that item must provoke the condition without a primary gastrointestinal disturbance and must produce the condition each time it is ingested.

On the other hand there are those foods which induce a dermatosis by indirect mechanisms. The exciting factor may rest in the food itself or in an altered physiological action as a result of the food. Stellwagon has seven groups in which the action of food as related to skin conditions falls:

1. *Idiosyncrasy*: Demonstrated by the effect of strawberries, crustaceans, meats, fish, oysters and acid fruits.

2. *Local action*: Acid fruits, tomatoes, peppery and hot sauces, nuts, etc., may provoke an eczematoid condition of the lips and mucous membrane.

3. *Nervous excitants and depressants*: An excess of coffee, tea, tobacco, or alcohol may produce a pruritus, acne rosacea, dermatitis, or dermatitis seborrhœica.

4. *The incompatible and irrational mixture of certain foods*: It is a popular belief that oatmeal and other cereals are deleterious. This is in all probability not a fault of the food *per se* but rather of the ingredients mixed. It may be the combination of the acid fruits eaten for breakfast followed by the cereal, served hot and flooded with milk or cream and sugar. Stellwagon believes that properly prepared oatmeal is harmless in rational quantities.

Another combination is buckwheat cakes and the traditional pork sausage, both fried in grease.

5. *Under and overfeeding:* In adults we must contend with weight reduction diets—a case of undereating and irrational eating. In infants and children, overeating is a big factor. There is a supercharging of the system with poorly digested food, associated with a faulty and incomplete elimination plus an eczematous diathesis. Stellwagon does not commit himself relative to the harmful effects of an excess red meat diet. One notable exception, according to some, is that fat stands in the first place as the etiology of eczema, particularly in infants.

6. *Faulty preservation of food:* Care must be taken not to mistake an idiosyncrasy for this factor. Upsets from faulty preservation are most frequent in the spring and summer seasons and after periods of extreme temperature. During these periods the preserving temperatures may not be carefully guarded. Pork, veal, and the crustaceans are more prone to putrefaction than beef, mutton, and poultry.

7. *Chemical preservation:* A dermatosis may result from the action of the drug *per se* rather than from the food. The drugs commonly used are boric acid, salicylic acid, potassium nitrate, formaldehyde, benzoic acid or sodium benzoate. The modern pure food laws, however, protect the consumer in this respect. There may also be an over-confidence in the preservative action of the chemical used with a resultant food deterioration.

These factors act by effecting an insult to the gut or to the body as a whole. For example, overeating and fast eating result in an indigestion and the overloading of the system with partially or poorly digested foods. Unripe fruits and vegetables and spoiled foods irritate the stomach and intestine with subsequent inflammation and reflex manifestation in the skin. The ptomaines and other products of decomposition as well as the preservative drugs affect the system and may become evident in a cutaneous eruption of some sort. Chronic psoriasis is often aggravated by a meat diet, the factor being the catabolism of the protein and albuminous portion of the food with the formation of autotoxins. Whether this reflex idea is an easy escape

from reality, we are not prepared to say. The thought was encountered frequently in the literature reviewed. Wm. T. Corlett states that in many diseases of the skin we can not associate local irritation, diathesis, or extraneous substances seeking exit from the blood, and so it is more rational to assume that they are perverted reflex manifestations. In place of the reflex centers transmitting a vasomotor relaxation to the mucosa of the stomach, a part is diverted and appears on the surface of the body as an erythema, urticaria, acute eczema, or prurigo. The predisposition and vulnerability of the skin must be considered, too. The skin is an organ having its variation in function as any other organ within the body, depending on constitutional demands and the general health. Certain diets tend to aggravate a dermatosis by fertilizing the soil with material already present in abundance. This is illustrated by the dermatoses of infancy, due to the overloading of a sensitive digestive tract by injudicious and excessive feeding. It is also a common occurrence to hear of abstinence from starch and sugars in a case of acne on the basis that the carbohydrates form a fertile media for the staphylococcus. Fox states that he has never known either of these two items taken in excess or between meals to aggravate the condition. Many dermatoses appear only after a condition of debilitated health when previously the patient was exposed with impunity to the exciting factors. In some of these cases a bland diet is preferable and in others a full, nutritious diet, depending on the case. Corlett claims that those having irritable skins in youth should avoid the continued use of rhubarb, small seed fruits, apples, shell fish, sugar, acids, malt liquors, and spirits; and in old age, lean meats, eggs, beans, shell fish, pastries, malt liquors, and spirits. Much depends on the preparation of the food, and an absolute prohibition of certain items is irrational without considering the cooking. Highly seasoned meats, fried meats, griddle cakes, hot bread and biscuits, unripe fruits and vegetables or even overripe fruits all contribute to the stigmata which the foods so prepared are subject to.

II

Following is a brief consideration of cer-

tain foods as related to certain of the skin conditions:

Butter: The use of butter is associated with rich foods and fried foods, giving rise to digestive disorders. Eczema and acne are often attributed to an excess of butter. J. C. White states that butter *per se* is harmless to the skin. Butter is easily digested, but if it stays in the stomach too long, butyric acid is split off from the glyceryl butyrate causing indigestion, irritation, and urticaria.

Milk: There are some reasons for believing that milk has a deleterious effect on the skin. Certain of the infantile eczemas are improved or cured by withholding milk and substituting buttermilk. Culver says that milk is readily digested and assimilated, that the tissues finding nutrition so readily available lack a robust quality of rendering themselves capable of withstanding infection. Here, again, the fertilization of a susceptible soil must be considered. Cow's milk is a very complete food, but compared to human milk it is poor in carbohydrates and rich in fats. The milk fat may cause a seborrheic dermatitis in infants (known as milk crust) so the buttermilk therapy in infantile skin conditions provides a food which is fat poor. The skin uses considerable fat. Most fats, with the exception of butter, are not susceptible to bacterial decomposition. The source of fat for the skin is chiefly the ingested fats, though the sugars and other carbohydrates in their metabolism contribute some.

Cereals: These have long been regarded with suspicion. Careful questioning as to idiosyncrasies will usually exempt oatmeal and buckwheat especially from blame. The combinations of food served and their preparation are more often at fault.

Fish: There are many cases of real fish idiosyncrasy manifested by gastric irritation of a fugitive erythema or urticaria. Both the laity and profession are prone to blame fish without considering other factors. White doubts that fish is the etiology of dermatological lesions as often as it is thought to be. Much of the indigestibility of fish due to the frying. Fats may be decomposed by the heat into acrolein and other products irritating to the gastrointestinal tract. There are many communities having fish as the major item of diet which do not have an exceptional incidence

of skin diseases. Clams, lobsters, and other crustaceans may produce a cutaneous expression, usually through an indirect mechanism, there being a primary enteric disturbance. The toxins in certain mussels act after being ingested on an unstable cutaneous vasomotor system producing skin upsets.

Alcohol: Alcohol can be considered a food when taken in moderation. Continued use, however, may cause an enlargement of the facial capillaries, especially in the nose. Other changes which may occur are impetiginous, erythematous, or furuncular eruptions. These are generally confined to the lower limbs, but may be general in distribution. Lager beer is thought to provoke acne in women especially. The alcohol here is probably not the factor because of the low alcoholic content of beer. Alcohol will aggravate existent dermatoses, impairing the tone of the vasomotor system and producing a chronic passive congestion of the skin. It is usually interdicted in skin conditions. During Volstead days we saw many cases of pseudo-pellagra, due to improper handling of the mash in the preparation of the raw liquor and over-drinking.

Fruits: There are seasonal variations in the effects of fruits caused (1) by the varying amount of acids, and (2) by the degree of ripeness, namely, the conversion of the starches to sugars thus increasing the digestibility. The strawberry rash is typical of a food idiosyncrasy. Other fruits like pears, grapes, bananas, or apricots have their individual reactions, depending on the type of idiosyncrasy. Apples occasionally produce an acne like eruption around the mouth, and in children this may assume the character of a vesicular or impetiginous outbreak. The highly acid fruits are rhubarb, currants, gooseberries, raspberries, huckleberries, mulberries, plums. The acid contained is benzoic acid as a rule which, during metabolism, becomes hippuric acid. The citrus fruits, as lemons, oranges and limes, are better tolerated because the citric acid becomes an alkaline ash in the form of carbonates.

Nuts: Nuts are well known for their indigestibility. The English walnut produces a buccal eruption very often; and herpetiform inflammation around the lips is frequently seen. The type of protein and the high fat content are factors to be consid-

ered in the cutaneous upsets from nuts. The indigestibility is due to the large amount of cellulose. This dense cellulose framework may be broken down by grinding, thus making the nuts more bland and their presence more easily tolerated by the stomach.

Sugar and Starch: These are thought to be contraindicated in conditions of acne and furunculosis. Fox doubts whether they become a factor in these or any other skin conditions. There is little or no vitamin content in the carbohydrates, so a high carbohydrate diet would be deleterious from that standpoint.

Meats: Here the protein must be considered, and the allergic response to certain sensitizations. Meats are subject to considerable preservation and therefore are liable to spoil. The various ways of preparing and serving meat are often more at fault than meat itself in the production of skin conditions. We have cited a student's experience with a supposed idiosyncrasy to pork. Pork fat and especially bacon are some of the most readily digested of the meat fats, making them valuable for convalescent food. The quantity and quality of the digested fat does not have a direct noxious effect, but lowers the resistance and increases the susceptibility to bacterial attack, thus rendering the patient liable to acne, seborrheic eczema, furunculosis, and erysipelas. Fox states that the prohibition of red meats and starches has approached a faddish degree.

Fowl: As a rule, fowl are considered a very wholesome item of diet. White reports a case which developed a severe urticaria after the eating of the least bit of roast turkey.

III

Some of the skin conditions as related to certain items of diet shall be briefly considered.

The general physical condition should always be ascertained before considering diet as the etiologic factor. The toxic by-products of a perverted metabolism are more often than not the hidden cause of skin diseases. We know of a patient with chronic cholecystitis and possible cholelithiasis who develops an urticaria whenever the condition is exacerbated. He has vainly tried to find a dietary cause for this urticaria. He also reacts, independently of his

gall bladder flareups, to raw and cooked apricots.

Eczema occurs in anemias, organic diseases of the liver, kidneys, and lungs. The food in these conditions should be simple and well cooked and there should be regular elimination.

In *infantile eczema* the amount and regularity of feedings are important. In breast fed babies the addition of cereals, fruit juices, and vegetables sometimes helps. In bottle fed youngsters, heating the milk, the use of protein milk or certain of the milk preparations, are of value. A mixed diet is more beneficial than a strictly milk diet.

Lupus erythematosus is of toxic origin and occurs in people with poor circulation and nutrition. This condition requires a generous and fatty diet to build up the whole system.

Herpes zoster results from an inflammation of the nerve ganglia and is uninfluenced by diet. Constitutional treatment, with rest and a wholesome diet, is indicated to improve the general tone of the whole body.

Pemphigus, which is a collection of bulbous eruptions of uncertain etiology, requires a search for a toxic gastro-intestinal tract. An acute febrile case is treated like other acute fevers with a bland and fluid diet.

Psoriasis may or may not be on a toxic basis, but if associated with trophic joint changes, toxemia is suggested. Alcohol, pastry, sweets, eggs, and fish are restricted. Chronic psoriasis is aggravated by a protein diet. There is a definite relationship between the amount of nitrogen in the food and the cause of the disease. The patient improves on a low protein diet and is worse on a high protein diet. Some patients suffer what Schamberg calls "nitrogen hunger" and those with a severe psoriasis present a state of remarkable protein undernutrition. This is because retained protein goes into making psoriasis scales which are almost pure protein. The success of the low protein diet in these cases is due to the fact that we can reach the point in the diet at which the protein goes only to the vital organs at the expense of the scales, thus inhibiting their production. One author suggests that milk may be taken, but not with meals. This statement, as made, is ambiguous. Coffee and tea are interdicted in this condition. A strict vege-

tarian or lacto-vegetarian diet is most effective in the treatment of psoriasis. This is known as the Salisbury treatment.

Eczema is of great importance and constitutes about one-third of the entire number of skin diseases and its dietetic management is at times exceedingly satisfactory.

There is considerable variance of opinion relative to *acne vulgaris*. It is a reaction of the period of evolution at puberty. It is associated with an excessive output of sebum which plug the hair follicles. Acne patients are often debilitated, frequently dyspeptic and constipated. They demand a simple, bland, and laxative diet. Some exclude fatty foods. Fox states that he has never known sugar or starches to aggravate an acne. It is a common impression that carbohydrates are interdicted in this condition.

Lupus vulgaris thrives on a deficient cutaneous resistance, plus the toxic effect of the tubercle bacillus. It requires a high caloric diet.

In *syphilis*, green vegetables and coarse foods must be used with caution while mercury is given because of the possible gastric distress.

Pruritus is due to a disturbed function of the sensory nerves. The noxious products of certain metals, or such conditions as diabetes, liver pathology associated with jaundice, and uremia irritate the sensory nerves and produce a pruritus. The diet in these latter conditions, especially, is extremely important. The spices, crustaceans, fish, meats, cheese, tobacco, alcohol, tea, and coffee are contraindicated.

The *prurigos* are closely related to urticaria being on the basis of a susceptible vasomotor system and sensory nerve irritation. They are characterized by itching papules and are common in childhood. After ruling out external irritants, the diet and gastro-intestinal tract must be considered.

Pellagra is a deficiency disease manifested, among other things, by cutaneous pathology. Protein and vitamin insufficiency have been attributed the cause. Sutton thinks that it is not so much a deficiency disease as it is a definite intoxication arising from the gastrointestinal tract. Goldberger thinks that the diet controls the cause and development of the condition, the relationship depending on a specific quality of the amino acid makeup of the

protein supply. Other evidence is against this idea. Akyroyd says that a vitamin B₂ deficiency is a more probable cause, though this is still uncertain. Pellagra, however, can not be regarded as synonymous with a vitamin B₂ deficiency. Vitamin B is found in fresh and cooked fruits, vegetables, and dairy products, it being heat resistant.

Urticaria is a manifestation of a vasomotor instability. The bowels should be purged, fluids forced, and the offending item of diet as shell-fish, strawberries, et cetera, restricted.

Furunculosis demands no special diet *per se*, but a co-existent diabetes or anemia should receive attention from a dietary standpoint. The skin is not a storage place for glucose or glycogen. The sugar content of the skin rises with a hyperglycemia, but when the blood sugar level drops, that in the skin readily diffuses back. Greenwood states that we can not correlate local infection with a hyperglycemia. Bodily hygiene is the important factor in diabetes and with furunculosis.

In *dermatitis herpetiformis* there is urea retention just before the rash which is a local manifestation of a general metabolic disturbance and as the retention of purin bodies is casual then diet as for gout should be given with effective elimination at all exits. Some claim that it is a nervous condition. During the acute stage put on an exclusive milk diet. Tea, coffee and alcohol should be forbidden. When the acute stage has subsided, vegetables, farinaceous foods and eggs may be added to the diet returning gradually to the normal diet, excluding indigestible and pure, rich foods.

Hyperidrosis: Since sweating is caused by vasomotor disturbance, general hygiene plays a part in the cure, and although there is no diet factor as a cause, the patient should avoid dietary risks and keep on a simple diet. When accompanied with obesity, or some nervous condition, these should receive their appropriate and dietetic treatment.

IV

Summary

1. Diet may be a vital factor in skin diseases.
2. Organic and parasitic diseases should be ruled out first or treated first, if present.
3. The noxious products of a perverted

metabolism or faulty digestion may produce skin diseases

(a) directly by reflex action through the intestines and allergic phenomena;

(b) indirectly by

(1) sensory and vasomotor nerve irritation;

(2) cutaneous irritation by the sweat.

4. Skin diseases may arise from irrational eating:

(a) irregularity of eating;

(b) too large or too small quantities;

(c) deficient diets.

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SOME OBSERVATIONS ON URETHRITIS

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This paper is an endeavor to check up on the results, both medical and social, of the medical care of urethritis and its most common cause, gonorrhea. It consists of a study of one hundred cases, taken from my own office files. No special cases were culled out. Beginning with the letter "A" all were taken in alphabetical order until one hundred had been collected.

The first general impression is a rather disappointing one, in that the problem of sex hygiene is so very generally misunderstood by patients, who are either extremely apprehensive of ever recovering from a disease about which they have heard so many terrible tales or are in the exactly opposite frame of mind. These latter belittle the disease and also the physician, for the continued presence of an infection, for which they are unwilling or perhaps unable to make the necessary sacrifices in their personal living. The physician is inclined to think that there has been so much effort made toward the education of the laity during the past fifteen years, during and since the war, that everyone should realize something of the true significance of this problem. We, as physicians, forget, however, that this country, with the best educational program on matters of sex hygiene ever devised, has fallen down woefully in recent years with characteristic American emotional instability. While several European countries, England, Belgium, Sweden and to a lesser degree, France, are reporting figures showing a very marked decrease in the incidence of syphilis and gonorrhea, here we make assertions, but have nothing with which to back them up and know that very little progress has been made in the United States toward the elimination of venereal disease. It is a medical problem that is up to us to solve, not only with satisfaction to

ourselves, but also to the great body of our more intelligent citizens, who are taking a more and more active interest in community health.

I have made up a series of tables illustrating the various points to be brought out.

Table I shows that of one hundred male patients with an urethral discharge when first presenting themselves for treatment, sixty-six had gonorrhea as a cause of their urethritis, thirty-two other pus producing organisms and one an intra-urethral chancre. Five of these first seen for a non-specific urethritis, later on returned with gonorrhea, one of them twice. Sixty of the one hundred had a history of a previous gonorrheal urethritis. This, as you must admit, does not speak well for the results of educational measures for the eradication of venereal disease or perhaps for the intelligence of our citizens. These men are a fair cross section of the male population of our country, rich and fairly poor with the intermediate grades of earning capacity, laborer and white collared worker being included. The total number taken care of for gonorrhea, seventy-one, showed thirty-nine with a prior history of gonorrhea, thirty-two without such a history; 56 per cent. As shown, five patients who were seen first for a non-specific discharge later developed gonorrhea, one of them going through two

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TABLE I. CLASSIFICATION OF 100 CASES OF URETHRITIS

Gonorrheal urethritis.....	66
Non-specific urethritis.....	32
Both non-specific and gonorrheal urethritis.....	5
Luetic urethritis.....	1
No previous venereal disease.....	40
Previous venereal disease.....	60

TABLE II. GONORRHEAL URETHRITIS, SEVENTY-ONE CASES

Previous venereal disease.....	39
No previous venereal disease.....	27
Non-specific urethritis and gonorrhea.....	5
Non-specific urethritis and two gonorrheal infections	1

TABLE III. NON-SPECIFIC URETHRITIS, THIRTY-THREE CASES

With history of gonorrhea.....	22
Without history of gonorrhea.....	11
Furunculosis	1
Chemical urethritis (drugs).....	3
Diabetes	1
Lues	1
Strain, liquor, etc.....	2

attacks. The cases of urethritis showing no evidence of gonorrhea at the time first seen, thirty-three cases, gave a history of gonorrhea in twenty-two cases (66 per cent) showing the major roll played by antecedent gonorrhea in this type of infection, even though not the direct cause at the time. In the remaining eleven, as a cause of the discharge, we have drugs used as prophylactic in three, furunculosis, diabetes, syphilis, liquor accompanied perhaps with sexual strain and three without any admitted cause. It just happened. The exact part in the tragedy played by masturbation is hard to determine though I believe important and more common than we suspect. Two of these cases diagnosed as a chemical urethritis were taken care of at various times over a period of years and would return after a session with themselves of using the favorite remedy of their friend, the drug clerk. Hand injections were begun as a prophylactic and continued after establishing a mild chemical urethritis. One is inclined to question the sanity of patients of this type and yet these two happened to be getting along quite well enough in their work and had good jobs. The urethritis accompanying diabetes and lues cleared on the treatment of the cause, as did that occurring during a series of boils.

The social status of these two groups is shown in Table IV. Of the seventy-one

gonorrhea patients, eighteen were married; fifty-two single; one undetermined. There was one divorcee and one widower. Thirty-four per cent married, would seem to indicate that there is a certain amount of protection afforded by marriage to the ordinary man. Ten of those, with non-specific infections, were married, twenty-three single, including one widower.

TABLE IV. SOCIAL STATUS, SEVENTY-ONE CASES OF GONORRHEA

Married	18
Single	52
Undetermined	1
Divorced	1
Widower	1

SOCIAL STATUS, THIRTY-THREE CASES OF NON-SPECIFIC URETHRITIS

Married	10
Single	23
Widower	1

TABLE V. TIME IN DAYS BETWEEN EXPOSURE AND APPEARANCE OF DISCHARGE

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 21	
0 4 3 4 5 5 2 2 1 2 2 1	

NUMBER OF ATTACKS OF GONORRHEA

One	38
Two	12
Three	4
Four	
Multiple	6

The interval, in days, between exposure and the appearance of the discharge, is shown in Table V. These intervals as recorded were accurate according to the patient. A good many seemed unable to be positive because of multiple exposures. The rather prolonged interval, in some few cases two to three weeks, may seem to differ from the ordinary conception, but is correct and is of social interest in that the patient is infectious during that interval. Of the sixty admitting of venereal history, thirty-eight had had one prior attack; twelve two; four three and six five or more. The question of recurrence of the same or old infection, comes up here. The time interval between attacks and admitted exposure, the clinical course of previous attacks as described, seemed to bear out the statements of these men that they had been freshly infected each time. That it can happen is shown by one of my patients who has acquired gonorrhea four times in six years, recovering without much difficulty each time. Along

with one of these infections he also picked up a chancre. This was his second attack of syphilis. I believe him now to be free from any venereal infection.

TABLE VI. MULTIPLE VENEREAL INFECTION

<i>Syphilis</i>	4
(a) Reinfection after 11 years. Positive dark field	1
(b) Luetic urethritis, positive dark field.....	1
Treatment up to 18 days before, with mercury	
(c) Positive Wassermann and history, treatment refused.....	2
Chancroid	2
Erosive Balanitis.....	1

Multiple venereal infection occurred in several (Table VI). Two penile chancres were seen in connection with urethritis, one patient having gonorrhea and the other an intra-urethral lesion, the urethritis clearing under anti-luetic treatment. This latter case was interesting in that the patient was under treatment for syphilis at the time and said that eighteen days before the appearance of the discharge he had finished a course of mercury injections. The dark field examination was positive for the treponema. The lesion was not in the same location as that of his previous infection. Two other patients had positive Wassermann reactions, knew of their trouble but refused treatment. There are two cases of chancroid and one of erosive balanitis.

The most frequent major complication of gonorrhea is epididymitis. Thirteen of the sixty (21 per cent) having had attacks of gonorrhea before I saw them had had epididymitis. Eleven (15 per cent) had epididymitis when first seen, having been treated by themselves or by another physician, and eight (12 per cent) developed epididymitis while under my care. There were four epididymotomies done in the second group.

There were eight cases of acute prostatitis in the series (11 per cent). Three of these patients developed an acute epididymitis. Among the five patients, known to have had a non-specific prostatitis and seminal vesiculitis before contracting gonorrhea, two developed epididymitis (40 per cent), and one an acute prostatitis (20 per cent), an unusually high percentage. Two patients developed a peri-urethral abscess, necessitating operation, one being referred

for that condition. One patient developed a gonorrheal proctitis, infecting himself while taking an enema. Refusal by a patient to permit of a dorsal slit being done resulted in a severe balano-posthitis. He became psychotic and was institutionalized for awhile. There were three cases of gonorrheal rheumatism, two in repeaters who had had rheumatism in a previous attack. The third case was particularly interesting as he infected his wife, who also developed an arthritis. It does not seem as though this were merely a coincidence but that it would show a selective affinity for certain tissues by this strain of the gonococcus. One Cowper's gland abscess was operated on.

TABLE VII. COMPLICATIONS OF GONORRHEA

	Bilateral	Right	Left	Total
<i>Epididymitis:</i>				
(1) During previous attacks of gonorrhea	5	3	5	13
(2) Care of self and other physician	3	5	3	11
(3) Care at office.....	2	4	2	8
Operations on (2).....				4
<i>Acute Prostatitis</i>				8
Acute epididymitis as a complication.....				3
Non-specific urethritis and gonorrhea.....				5
Acute epididymitis.....				2
Acute prostatitis.....				1
Periurethral abscess				2
Proctitis				1
Balano-Posthitis				1
Psychosis				1
Rheumatism				3
(a) First attack—infected wife and wife had same				1
(b) Attack of rheumatism during other attacks of gonorrhea				2
Abscess of Cowper's gland with perineal sinus				1
Stricture				10
Large calibered No. 20 F, bulb.....				1
No. 14-18 F, bulb.....				6
Filiform, bulb and penile.....				3

Ten per cent of these 100 patients had urethral strictures. Nine were in the group having a non-specific urethritis and one had an acute gonorrhea. Perhaps there were strictures in the group of gonorrhoeic patients who left while there was a discharge containing gonococci and whose urethras, therefore, could not be examined. With all of these cases there was an easily demonstrable infection of the prostate and seminal vesicles, which, I believe, always accompanies stricture. The calibers and other data of these strictures are shown in Table VII.

TABLE VIII. RESULTS OF TREATMENT OF GONORRHEA

Cured	40 (56%)
Probably cured (discontinued treatments of own volition).....	5
To other physician, dissatisfaction.....	4
To other physician, his case.....	1
Few or no treatments (dissatisfaction, no money—Board of Health).....	11
Consultations	3
Left city	7

RESULTS OF TREATMENT OF NON-SPECIFIC

URETHRITIS

Symptom-free (at least temporarily)....	22 (66%)
Treated for 60 days or more, with some improvement	4
(1) Recurrence on drinking, left town.	1
(2) Intercurrent infection, smallpox, no result	1
(3) Stripping	1
(4) Stricture	1

DISCONTINUED TREATMENT IMMEDIATELY OR WITHIN A WEEK (FIVE)

(1) Died of smallpox.....	1
(2) Strictures	2
(3) Referred out of town.....	1
(4) Sex neurasthenic.....	(1)

Consideration of the results of treatment is not particularly flattering to the physician, at least, not to this one. Forty of the gonorrhoeic patients, I am sure, were cured of their infection (56 per cent) (Table VIII). Five discontinued treatments of their own volition and undoubtedly got well. In the forty who remained under care until they were discharged, prostate, vesicles and urethra were normal, as shown by repeated examinations. Four became dissatisfied and went to some other physician. One patient was sent back to his physician as he had been only temporarily referred. Eleven left immediately or within a week, due to lack of money, hospitalization at the expense of the community, to the Board of Health Clinic or perhaps to their own tender care and that of the corner drug store. Three were consultations and seven left the city and were referred elsewhere. It would seem that being unable to see more than 56 per cent of a group of patients through to the end of their infection, is not a good record. Probably no other disease gives such a large per cent who fall by the wayside as far as the physician and his treatment are concerned.

The results in the cases of non-specific urethritis are twenty-two with cessation of the discharge and improvement (66 per cent). Four were improved but still retained a mild urethral discharge, a morning

drop. One of these four was free of trouble for a short time only to have a recurrence after getting drunk. Another went through an attack of smallpox, reporting that while he had the smallpox, he was free of discharge, but it returned on recovery from that disease. Another, I am sure, kept up his discharge, by persistent stripping of the urethra, thus injuring the canal, while the fourth had a stricture. Five discontinued treatment within a week, two having strictures. One was referred out of town with instructions to continue dilatation of his stricture. A fourth died of smallpox. The fifth patient has been seen since with a return of the discharge, due to a persistent desire to do something for himself, that is, use an injection, bougie or other medicinal agent, which he thinks he needs at times. How many of these patients keep up their troubles with masturbation or other genital tinkering it is hard to say.

I have put down six of this group of 100 as being sexual neuresthenics, a classification used for want of a better term and easily understood. Three of these had had gonorrhea and three had not. There is no human specimen who is more pitiable to see than this type in full bloom. With their varied complaints, fault finding with advice and treatment and prescribing treatment for themselves, they are among the most difficult of our patients to handle. Several were referred to the neurologist with indifferent results. Happy married life, at least temporarily, worked as a prescription for two of them, although you feel like apologizing to womankind for suggesting it. However, the cynical attitude, which we find is so easy to assume as physicians in the care of these patients, occasionally receives a severe jolt and we may be rewarded when we least expect it in the response of human nature to encouragement from one of us.

The time taken in the care of urethritis is perhaps the most irksome factor we have to deal with. Little or no pain is caused by our therapeutic measures if we are doing a good job. The disease itself, barring some of the complications, is not as disabling or painful as many others. These facts alone make the ordinary man impatient of treatment restrictions as there seems to be so little reason for a disease continuing with so few symptoms and so little discomfort.

TABLE IX. TIME OF TREATMENT OF
URETHRITIS

	Number of Patients	Time of Treatment
Gonorrhea, acute, no previous infection or treatment.....	9	71 days
Gonorrhea, acute, acute prostatitis as a complication.....	3	106 days
Gonorrhea, acute, chronic prostatitis as a complication.....	4	333 days
Gonorrhea, acute, with treatment by self and other physician, at offices.....	13	113 days
Gonorrhea, acute, with treatment by self and other physician, in all.....	..	159 days
Gonorrhea (previous infections), no other tract pathology.....	8	58 days
Gonorrhea (previous infections), chronic prostatitis of gonorrheal origin.....	14	225 days
Cleared completely of gonorrhea and prostatitis.....	4	
Cleared completely of gonorrhea with residuary prostatitis.....	10	
Gonorrhea, chronic, with residuary prostatitis and gonorrhea.....	4	112 days
Non-specific, no history of gonorrhea.....	5	25 days
Non-specific, history of gonorrhea.....	14	61 days

Then, too, the social aspect, the taboo placed on venereal infection, the necessity of keeping a secret of his affliction and the dread of what may happen in later life, all contribute to upset the mental balance of many patients. Any disease affecting the male genitalia seems to carry with it a much more profoundly depressing effect than elsewhere, from its very location.

In Table IX is charted the time taken in the treatment of these cases of urethritis. The average length of time for nine cases of acute gonorrhea with no prior infection was seventy-one days until discharged as cured. These patients had had no previous medical care, except what they might have given themselves on the advice of their friends. The man with his first attack of gonorrhea does not immediately report to a physician. Three patients with an acute attack, complicated by an acute prostatitis, cleared in 106 days. Four acute cases, with a chronic prostatitis, took an average of 333 days. This is the type of case where a search for other foci of infection is necessary. One of these men cleared very quickly after tonsillectomy. Thirteen patients, who were treated elsewhere, and by themselves, took 159 days, on an average, to get well; 113 of those days under my care. With no other pathology in the genito-urinary tract, but a history of other gonorrheal infection, eight patients were cured in an average of fifty-eight days. These men appeared for treatment immediately on recognizing their trouble and were willing to go the limit as far as their personal hygiene and treatment was concerned. Experience is a great teacher. Of fourteen, with a new infection, complicated by a chronic prostatitis of gonococcal origin, four were

cured completely in 225 days and ten in the same length of time of the gonorrhea, but still had a residuary prostatitis and seminal vesiculitis. These ten, however, I believe were free of the gonococcus. Four patients were treated for an average of 112 days without freeing them from the gonococcus before they discontinued treatment with me. Without taking into consideration the strain of the gonococcus acquired and the individual resistance of the patient, about both of which we are rather uncertain, the severity of the infection and length of time required for a cure are directly dependent on infection of the urethral glandular adnexa, the glands of Littre, Cowper's gland, prostate and seminal vesicles.

In the group with non-specific urethritis, five patients, with no history of gonorrhea, cleared in twenty-five days; two completely; three with no discharge, but a remaining prostatitis and vesiculitis. Fourteen, with a history of previous gonorrhea, were clear in an average of sixty-one days, one completely and the other thirteen still having a residuary prostatitis and vesiculitis. It is in this latter group that we find the cases of stricture, which never do get well completely, but require periodic dilatation. Also those having indefinite pains, located variously in the perineum, rectum, penis, testes, supra-pubic area and back, which flare up at times, due to indiscretions in diet, drink and sex activity. In this group are the cases with fibrosed prostates and seminal vesicles and scarred posterior urethras, which later on may develop obstruction at the neck of the bladder. Some of these men take their troubles philosophically and admit they have it coming to them, others do not and are very critical of the medical pro-

fession in general. A normal sexual life is our best prescription and is also often the most difficult of having filled.

I have tried to show some of the difficulties inherent in the medical care of urethritis. From a consideration of this small series of cases it must be evident that from the standpoint of the patient there is very little protection being afforded the individual by society as a whole. Human nature must be accepted as it is for the present and our efforts directed more directly toward the eradication of the foci of infection, the carrier, both male and female. The effort to raise the morals of the community should be continued with less emphasis on the fear of being infected as fear is a very poor deterrent at best. The community is looking to the physician for leadership in the prevention of all diseases and there are several suggestions that can be made toward the prevention of venereal infection.

Our medical schools should devote more time in teaching the recognition and treatment of venereal disease. The thrill, occasioned by the diagnosis of an obscure heart lesion of luetic origin, is somewhat dampened when your patient inquires how it could be when he had some time ago taken so many "shots," and on his having had a negative Wassermann test being pronounced cured by his physician. If he happens to be of the more intelligent type, perhaps he will ask what doctors of medicine are doing to prevent the spread of syphilis. The fibrous median bar at the neck of the bladder can be taken care of but at a great cost in time, suffering and money to the man, who has had gonorrhea.

No hospital that I know of makes any particular effort to use the clinical material available to teach its internes the care of acute gonorrhea, and yet the probabilities are that those internes will have much more use for an accurate knowledge of how to deal with that disease than of how to do a hysterectomy or thyroidectomy. No hospital has a prophylactic station maintained twenty-four hours a day. Five-sixths of the

gonorrhea in the American army, during the World War, was brought into it from civilian life. There is no doubt that the A. E. F. in France was freer from venereal disease, and was kept so, than any body of men in the history of the world and that in spite of conditions potentially as productive of infection as could be imagined. Prophylaxis was instantly available and as a consequence made use of. This need is being answered in a poor way by the clerk in the corner drug store.

Research work is much more expensive in this country than in Europe, due to our much higher standards of living. However, money is also more plentiful here and we see enormous sums given and spent principally in Europe on the diagnosis and treatment of syphilis. The results have more than justified the expenditure. No similar effort has been put forth toward the cure of gonorrhea. Whether it will be possible to obtain money to combat the lowly and much despised gonococcus, remains to be seen. It does not seem to get the same emotional response from the prospective donor that research on some other disease does and connecting up his name with this disease meets with no encouragement. However, in England, the campaign against venereal disease is showing real results in less gonorrhea as well as less syphilis. A few thousand dollars spent for syringes and paid attendants by our community would more than be paid back into the community chest by fewer wrecked families and individuals, of necessity now taken care of as a direct result of gonococcal infection. There is no disease where prophylaxis is more necessary and treatment is more discouraging.

Whether, as some predict, the present moral code would break down if the fear of venereal disease were removed as a deterrent to promiscuous sex relations, only the future can tell when we have removed the scourge of these diseases from our civilization.

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INTERSTITIAL HERNIA*

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When one sees patients who present themselves with inguinal hernias, he is usually accustomed to classify the hernias as either direct or indirect. It is very seldom that we make a preoperative diagnosis other than the above types, largely because we fail to recognize any other type of inguinal hernia. This failure of recognition is probably due to the fact that most of us are aware of the existence of inguinal hernias other than the usual type. It is for this reason that we are reporting this case and a brief résumé of the unusual types of inguinal hernias.

Report of Case

A patient was admitted to the hospital, complaining of rupture. His past history was essentially unimportant. A history of tuberculosis was elicited in his family history; otherwise, it was negative. He dated the onset of his rupture in the right inguinal region to about twenty years previous, at which time he noted, in the right lower quadrant, a small protrusion which gradually increased in size. At first he had no accompanying symptoms, but after several years he began to have pain in the right inguinal region which gradually increased both in severity and frequency, particularly upon exertion. He wore a truss for a number of years, without any apparent relief. About twelve years before his admission to the hospital, he also noted a protrusion in the left inguinal region which steadily increased in size. The remainder of his history was entirely negative.

Examination showed a well developed man, apparently in good health. His pupils reacted well to light and distance. There was slight bilateral horizontal nystagmus; ears, nose and mouth were negative. The chest examination revealed decreased expansion, but there were no organic findings. The heart showed a chronic myocarditis. The blood pressure was systolic 216, diastolic 138. His blood vessels were all sclerotic in type. Abdominal findings were of a tumor-like mass protruding in the right lower quadrant. The external abdominal inguinal rings were markedly relaxed on both sides, particularly on the right side. The right testicle was undescended.

Laboratory findings were all negative.

Operation was performed for bilateral indirect inguinal hernia under local anesthesia. On the left side a typical indirect inguinal hernia was found. On the right side, however, a double sac was found to be protruding through all the muscular layers as far as the external oblique fascia. The sac was isolated and separated from its adjacent structures. Both hernias were repaired according to E. Willys Andrews' modification of Ferguson's method. The patient made an uneventful postoperative recovery and was discharged from the hospital in very good condition.

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Discussion

Interstitial hernia may be defined as any hernia which, in the course of its development, spreads out in the planes of interstices of the abdominal wall. According to Goebell, this type of hernia was first described by Bartholin in 1661, and further described in 1797 by Petit. Kuster, in 1880, described a hernia between the aponeurosis of the external oblique and the superficial fascia, which is now known as Kuster's Hernia, or as Inguino Superficial Hernia. Kröhlein, who made a very interesting study and collection of all cases of the unusual inguinal hernias, described the properitoneal type and reported six cases of that type in 1876. Since then many cases of anomalous inguinal hernias have been reported and the various types fully described.

Essentially, there are three types of interstitial hernias described, the type depending entirely upon the location of the sac in the abdominal wall.

I. *Properitoneal Type*: This type indicates that the sac lies between the peritoneum and the transversalis fascia. The position of the sac most frequently is between the internal inguinal ring and the anterior superior iliac spine. The sac may, however, follow the direction of the inguinal canal into the scrotum, or it may go backwards to occupy the inner part of the iliac fossa.

II. *Inguino Interstitial*: In this type the sac may be located in the following planes: (1) Between the transversalis muscle and the transversalis fascia. This type is very rarely seen because the attachment between the transversalis fascia and muscle is much closer than between the transversalis fascia and the peritoneum. (2) Between the transversalis muscle and internal oblique muscle. (3) Between the internal

and external oblique muscles. This is the most common location for the interstitial type, due to a point of weakness on the anterior wall of the abdominal portion of the inguinal canal at which place the space between the two oblique muscles is largely filled with loose, connective tissue.

III. *Inguino Superficial*: In this type the sac is found between the aponeurosis of the external oblique and superficial fascia. Coley reports that 26 out of 123 cases operated, for undescended testis showed this type of hernia present. The increasing frequency of operations for the cure of undescended testis has brought to notice an increasing number of these cases, due to the frequent association of the two conditions.

The sac, regardless of the type, may be single or multiple—hence the hernia may be unilocular or bilocular. The literature reveals considerable controversy over the method of formation of the second sac. One group favors the congenital theory, believing that two distinct sacs are present, joined by a common neck at the internal ring. Another group explains the formation of the second sac as due to mechanical factors which cause an obstruction to the onward course of the hernia and thereby causes an outpouching from the first sac. In most cases we find a bilocular sac; one sac located in the inguinal canal or scrotum, the other in any of the locations mentioned above, which constitutes the interstitial hernia.

As to the etiological factors in the production of interstitial hernia, a number of theories have been advocated but the theory of obstruction has been well accepted by such men as Goebell and Kronlein. Mechanical obstruction due to undescended testicle constitutes about 70 per cent of all reported cases of interstitial hernia. A very unusual case has been reported in a female in which a hydrocele in the canal of Nuck was the factor in producing an interstitial hernia. Obstruction other than undescended testis, such as a small external ring which may be either congenital or acquired, is an important predisposing factor in the production of the interstitial hernia. An ill-

fitting truss, which indirectly causes a mechanical obstruction at the external ring by the formation of adhesions, is advocated particularly by Halstead as an etiological agent.

The diagnosis of interstitial hernia is not difficult if one remembers this possibility in the differential diagnosis of all hernias. It is usually simplified when one can see and palpate a tumor mass in the right lower quadrant which has an unusual relationship to the inguinal canal, and especially when this tumor mass is associated with an undescended testicle on the same side.

From the standpoint of complications, we wish to emphasize that the possibility of strangulation is increased since most cases have a bilocular sac. Cumston states that 50 per cent of all cases strangulate and Kronlein reports 90 per cent mortality in all of his cases of strangulated interstitial hernias.

The treatment in all the unusual types is operation for radical cure of hernia. The first step is the complete isolation and ligation of both sacs, followed by repair of the abdominal weakness.

Conclusions

1. Interstitial hernias are more common than the literature reports, but they are not recognized as such.
2. Interstitial hernias may be of three types.
3. The sac is usually bilocular.
4. Undescended testis usually accompanies the hernia.
5. Some form of obstruction is the most common etiological agent.
6. Early diagnosis is essential because of the increased possibility of strangulation.

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A CASE OF AGRANULOCYTOSIS WITH RECOVERY FOLLOWING THE ADMINISTRATION OF CONCENTRATED LIVER EXTRACT

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The patient, a woman, aged thirty-nine years, was first seen by me on the tenth day of her illness. She had complained of a sore throat and lassitude. Her previous medical and social history was negative, except that for the past fifteen years she had taken daily doses of a well advertised headache remedy containing twenty grains of acetanilid to the ounce. This drug is built up from the benzene ring and all compounds of this group have a deleterious effect on the white blood cells if taken over long periods of time.

At the first examination her temperature was 104 and ranged from 103 to 105 for the day. Pulse was 140; respiration, 40; urine, negative. Blood: hemoglobin, 80 per cent; red cells, 4,300,000; white cells, 2,000; lymphocytes 69 per cent; mononuclears, 21 per cent; polynuclears, 10 per cent. Blood pressure reading was 120/80. Examination of the lungs gave negative findings, heart sounds were weak, mentality was clouded. The patient complained of great exhaustion.

A liver extract was administered by mouth and an effort made to procure some preparation of nucleic acid. The day following her blood count was about as above and her general condition was weaker. The third day a concentrated liver extract (containing nucleic acid) was given intramuscularly twice daily. Three hours after the first injection

her white cells were 4,200, lymphocytes, 82 per cent, mononuclears 6 per cent, polynuclears 12 per cent. Five hours later, white cells were 17,000, lymphocytes 80 per cent, mononuclears 4 per cent, polynuclears 16 per cent.

At the time of the fourth injection her condition was desperate, temperature 105, respirations 48, pulse 140. Blood pressure readings were 95/75. After this she rapidly improved. White cells were 12,000, lymphocytes 30 per cent, mononuclears 18 per cent, polynuclears 50 per cent. Two days later her blood count was normal.

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PATHOLOGICAL PROCESSES OF THE FOSSA NAVICULARIS

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Affections of the fossa navicularis are not as rare as has been regarded heretofore. We encounter them not infrequently under the guise of symptoms simulating chronic urethritis. Commonly the patient complains of a burning sensation on micturition, gradually subsiding upon completion of the act. The first glass test reveals flocculi and filaments, while the second, third and fourth tubes are negative. Not always do we detect gonorrheal infection upon the examination of the centrifuged urine; Gram-positive diplococci, epithelial cells and cellular debris may often be recognized.

To depend solely upon the glass test procedure would be futile; recourse must be had to direct inspection of the parts involved. When a sound is inserted into the anterior urethra and palpation exerted upon it by the finger, one may elicit a ring of cartilaginous consistency or a band of semi-circular plastic exudate beneath the sound. I have termed this pathological state urethritis navicularis. This alone, however, is not sufficient: anterior urethroscopy is of greater value in detecting these lesions. By withdrawing the urethroscope and thus

gradually reaching the fossa navicularis, one is distinctly confronted by typical lesions invading that portion of the urethral tract. They resemble minute elevations surrounded by zones of congestion; one or more of such lesions may be present in the fossa. Occasionally some of them will admit a sharp pointed probe for a distance of one-eighth of an inch. The latter condition I designate as urethritis navicularis canellata. The so-called urethrorrhea complained of by the patient is due to the secretion of these glandular structures, for they are nothing else but affections of the urethral glands of this particular portion of the canal. The pain upon the onset of

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urination may be ascribed to the acid urine passing over the congested areas indicated above.

To summarize: The following are the essential symptoms of affections of the fossa navicularis:

1. Chronic urethrorrhea with or without specific findings.
2. Pain upon the onset of micturition.
3. Palpable plastic exudate elicited with the sound *in situ*.
4. Urethroscopic evidences typical of these lesions.

Treatment: The treatment consists in attacking these lesions by means of the urethroscope. Applications of a 25 per cent solution of silver nitrate are of paramount value in such cases. If the lesions do not yield to this method of procedure, then we are compelled to resort to surgical intervention. If possible a long pointed, sharp, spear-shaped knife should be introduced

into the gland's opening, which is freely incised, after which it may be cauterized with a mixture of tincture of iodine and carbolic acid.

A Graefe point surmounting a long handle, the author's modification, is a practical instrument to use in this simple operation. If the lesions still prove intractable, this method must be repeated. Should the meatus be very small, a meatotomy must necessarily be performed prior to all treatment. By persistently attacking the lesions in this manner, they will ultimately yield to our efforts.

One of the complications to be feared in conjunction with affections of the fossa navicularis is glandular infiltration, with fistulous formation communicating externally with the sulcus glandis. But such an event rarely takes place, and is solely due to secondary infection.

DIAGNOSTIC FACTORS CONCERNING HERPES ZOSTER OTICUS

RALPH A. FENTON, Portland, Ore., reviews the etiology and pathogenesis of herpes zoster, pointing out that many otitic and intracranial conditions are simulated by the various manifestations of herpes zoster oticus. Knowledge of the nature and effects of the hepetic virus has lately been amplified by extensive immunologic study. The infectious agent is a filtrable virus, entering probably by the nose or nasopharynx, not by the skin. This specific pathogenic agent becomes localized simultaneously in ectodermal structures—the skin and mucous membrane—and in the tissues of the sensory nervous system. It may travel from the cortex to the periphery or vice versa, vaccinating the neural structures along which it travels, which serve as its culture medium. Herpes zoster is no longer considered to be a ganglionitis alone but rather an ascending or descending infective process due to a specific filtrable virus with definite serum reactions and antibody production. Predisposing factors seem to include excessive heat or cold, exposure, severe physical trauma, nervous shock or exhaustion, and sudden loss of endocrine equilibrium. Granulomatous ailments such as tuberculosis and syphilis seem to increase the vulnerability of peripheral neurons to the specific toxin of this disease. It has been suggested that chronic septic states caused by long-standing colonic stasis, cholecystitis, dental apicitis or nasal sinusitis may similarly facilitate meningeal invasion by the herpetic virus. The skin lesion of herpes zoster, a vesicle, resembles that of smallpox but contains more exudate; it is due to intercellular

edema with local necrosis, and the appearance of Unna's "balloon" cells, large, swollen and multinuclear. Late skin changes include a thickened stratum corneum and proliferation of pigment cells, with depressed fibrotic zones when secondary infection has occurred. Symptoms and signs, in addition to vesicle formation, include pain, an enlarged preauricular lymph node, loss of local tactile sensibility and sometimes vesicles on the anterior two-thirds of the tongue, the anterior pillar or soft palate of the same side. Facial paralysis may supervene four or five days after, rarely coincidental with or preceding the eruption. Pain accompanying facial palsy should always suggest herpes zoster. Vestibular and auditory symptoms—moderate vertigo, slight deafness or buzzing noises—may precede the eruption by several days or appear simultaneously. Various combined nerve involvements have been reported: both facial and auditory nerves; one branch of the fifth; the first cervical, and, rarely, one intercostal nerve along with various cranial divisions. The management of herpes zoster oticus is symptomatic. Since the virus has not yet been isolated, no specific treatment is possible. Local, dry open treatment with non-irritating powders or mild, quick-drying antiseptics will obviate secondary infection of the vesicles and prevent scarring. Cocainization of the sphenopalatine region is often helpful in decreasing the pain and vertigo at the period of geniculate ganglion swelling. After the congestive stage has passed, diathermy may be tried if residual pain is excessive. Decompression of the seventh nerve should not be considered until the paralysis has lasted, unchanged, for at least two or three months.—*Journal of A. M. A.*, Aug. 18, 1934.

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JULY, 1935

EDITORIAL

TESTIMONY IN MALPRACTICE

"Why do physicians not testify against physicians in court?" is a subject of Editorial Comment by the *New England Journal of Medicine*. The topic was inspired by a remark of the secretary of the Grievance Committee of the Boston Bar Association who is quoted as having said: "There is a tendency, I believe, to conceal defective work. There are few things more pernicious than the refusal of one medical practitioner to testify against another. It has become traditional that it is almost impossible to get testimony on cases of malpractice."

The *New England Journal of Medicine*:

"The training of the lawyer is directed to two ends: first, to find the truth, and, secondly, to prevent, in court, by every possible means the appearance of any truth which will impair the claim of his client. If, voluntarily, he introduces in court any truth which hurts his client, he is likely to be regarded as a fool or a knave, or both; in any case, in so far as he introduces such truth, a poor lawyer. If he cannot suppress the harmful truth, he attempts in every possible way to discredit the witness or cast doubt on the validity of his testimony. In his presentation to judge and jury he may do this legally. The essential justice of his procedure need not be discussed now. The lawyer is trained to use his wits in this way and he likes it.

"The training of the physician is directed to finding out the truth. He agrees with the lawyer in this, but he differs in his treatment of the truth when found. He is not trained to make the worse appear the better cause. What would be thought of the physician who intentionally covered up the fact that his patient was suffering from cancer, if he should ask for advice from another physician as to treatment, without the possibility of making any examination? To be sure the practice of medicine and the practice of law are not exactly analogous, but this false analogy brings out an essential difference.

"It is ordinarily not difficult to obtain from physicians opinions as to the soundness of procedures in treatment and as to whether, in a given case, the patient was treated with reasonable care and consideration. However, they object to testifying in court on these points because, in their opinion, the present court procedure is not adapted to making a determination of these points with a reasonable degree of certainty. There should be little more difficulty in finding agreement among physicians in matters brought into court than in matters not brought into court.

* * *

"What is needed, as has been said many times, is that the two professions should unite in the solution of this important problem which they have in common. It will be solved when some individuals are interested enough to think it through."

It is the duty of the physician as it is the duty of every other citizen to aid in the cause of justice where he has dependable and accurate knowledge of the facts in the case and this means that he must be almost an eye witness. How many of us in giving an opinion of the results of another physician's treatment are in a position to know all the facts, among them the extent of co-operation on the part of the patient and his physical condition in regard to response to treatment. The so-called art of cross examination in many instances tends to obscure truth rather than to clarify it. Truth is seldom arrived at through debate. Why not adopt the scientific method? The great achievements of science have been possible only when dialectic was cast aside and replaced by investigation.

Besides, if physicians rushed to testify against one another, medicine would be a very precarious occupation, for in the end much treatment must eventually fail. If vengeance is to be the penalty of failure to satisfy, we are reminded of the old *lex talionis* of the Babylonians which made the art of the healer a most unenviable calling. One reason why physicians are reluctant to testify against one another may be in part explained by the fact that even the most competent may fail to satisfy both himself and the patient. Everyone has had his best

efforts frustrated. To take liberties with a famous sentence: "Let him who is without a failure cast the first stone."

FRACTURES

To treat fractures, place the fragments in the proper relations or alignment and by splints or other device hold them in the proper position until repair takes place. Simple, isn't it? Perhaps there is no other procedure that physicians are called upon to perform that entails greater anxiety than the treatment of fractures in the protean forms they somehow assume. There may be many factors beyond the control of the surgeon—always damage to the soft tissues, possible interposition of muscle, nerves, or blood vessels, comminution of the fragments of which exact approximation is impossible, non-union for no manifest reason, rarely, and we might add, inability of the patient to coöperate owing to pain or discomfort. All these, or any one of them, may tend to make uncertain the final result in many instances. Each fracture must be handled as an individual case. The majority of fractures, particularly of the long bones, can be treated satisfactorily by non-surgical methods, that is, by reduction and splinting until callus formation is satisfactory.

Greater attention is being given to conservation of the function of soft tissues than formerly by resorting to passive motion as soon as the condition will permit. Not only does early exercise guard against muscular atrophy from dysfunction, it also favors the circulation which promotes callus formation and tends to obviate the osteoporosis that results from disuse.

Success in the treatment, almost needless to say, demands an accurate knowledge of the anatomy of the affected parts. This mental equipment, together with a high degree of mechanical skill on the part of the physician, is more to be desired than expensive and complicated apparatus. Attention to the comfort of the patient, preferably without the use of anodynes, is absolutely necessary if his coöperation is to be secured. An uncomfortable patient cannot do the part expected of him. Casts should be applied so that their removal and replacement are possible without disturbing the pa-

tient. This is essential also if, as advisable, passive or voluntary motion is to be instituted early.

The importance of x-ray examinations before reduction, for diagnosis, and after, to check up the result, cannot be emphasized too strongly. Examination by means of the x-rays is sometimes omitted or used very sparingly to avoid "putting the patient to the expense." This thoughtfulness on the part of the attending physician is seldom appreciated by the patient if the end-result should prove unsatisfactory and sometimes a malpractice suit results where the attendant had only the kindest feeling for the patient. A competent roentgenologist is the best consultant he can have.

Soft tissue injuries will undergo repair if asepsis is observed. Injuries to the bones often undergo repair with deformities that greatly impair normal function. Since the treatment of fractures must prove satisfactory to the patient—and he is the judge of results—the physician who undertakes to treat broken bones should make careful written records, including x-ray examinations as mentioned, inasmuch as all fractures are potentially medico-legal possibilities.

THE DOCTOR'S WIFE

Who is it that stays hame at nicht?
Who is't that's a'ways i' th' richt?
Who watches o'er oor verra life?
Nane ither than th' doctor's wife.

Who is it that each day we bless?
Who is it wins oor love's caress?
Who is't forgives when we've been oot
An' comin' hame, a'maist atoot?

Who is it fibs on telephone
An' tells them that we're nae at home?
Who is't that's a'ways blithe an' gay?
It's Maggie, oor guid wife,—hoo-ray!

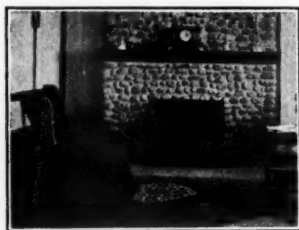
Who is it that sits oop tae wait
An' thinks that we hae met oor fate
Frae bullets or frae bandit's knife?
It is oor bonnie, faithfu' wife.

Who is it that stays hame tae fret
When we oor hame an' meals forget?
Who is it that taks a' th' strife?
Why, it's, of course, oor bonnie wife.

WEELUM.

"The internist is a general practitioner among specialists. He is the one physician who examines the patient as a whole. He it is who pieces together the parts contributed by the several specialists, considers each feature, gives it proper place and emphasis and then endeavors to envisage the whole."

J. S. McLester, M.D., President
of the American Medical Association.



The Editor's Easy Chair

THE DOCTOR IN HISTORY*

This is the title of a delightful book by Dr. H. W. Haggard, professor of Physiology, Yale University. While meant for lay readers, the subject is one of even greater interest to members of the medical profession. The doctor has always been and must be the most important personage in history whether he is so recognized or not. Even before man evolved, disease stalked among his ancestors in the evolutionary line of descent. Life, all animal and even vegetable life, is confronted with the struggle against disease. The records of disease are found in the pre-historic bones of cave bears and saber tooth tigers. Pathogenic bacteria were coexistent with the earliest forms of animal life. With the dawn of intelligence man sought to overcome this enemy which he personalized, attributing it to evil spirits or to the adverse will of gods which must be appeased by sacrifice of some kind.

The development of medicine, using the word in its broadest sense, was largely a matter of trial and error. Many procedures that had a survival value persisted as well as many things that were worthless, for in matters of hygiene early man was not always a critical observer. Numerous bizarre theories in regard to cause and treatment persisted almost to modern times and in many respects the present generation cannot boast. The fallacious mode of reasoning, *post hoc: ergo propter hoc*, has done much to retard progress in medicine as in other things.

A long period elapsed, one hundred centuries of spirits, ghosts and demons, according to Haggard, before the time of Hippocrates, whose work embodied the best in medical thought of the golden age of Greece. In fact in many respects Hippocrates was more modern than the medicine

of nearly two thousand years after his time.

* * *

The doctor's place in history is unique. While war and conquest have received the major attention of historians, disease has outclassed war as an instrument of destruction of members of the human race.

For centuries medicine was crude and of little value in the prevention of morbidity and in delaying death. Yet men clung to the doctor as a drowning man clings to a piece of driftwood in the ocean. The middle ages were ages of philosophizing and of speculation. Men "reasoned" things out rather than investigate. The lessons of Hippocrates which involved the observation of facts and deductions therefrom, and of Galen who introduced the experimental method, were not heeded. The dogmatic statements of Galen impressed his posterity much more than his endeavor to get at truth through experimentation. Therefore, until almost the fifteenth century but meager results in the way of disease prevention were accomplished.

* * *

The most feeble attempts towards habits of cleanliness would have produced favorable results but the inhabitants of towns and cities, even the well-to-do, were "slum" minded. Any account, and there are many descriptions, of the unhygienic conditions which prevailed in most European cities is appalling. Such conditions provided a fertile field for the great historic plagues which devastated Europe at wide intervals. The unsanitary conditions of towns of the middle ages *sans* sewerage, *sans* plumbing, *sans* pure water supply, *sans* almost everything that would make for health and comfort, is well known to the student of history.

Before trade routes were opened up disease was largely endemic. With the growth of overland and sea commerce, it became pandemic, accompanying the caravan and the ships of the trader. As might have been expected, the Crusades were also instrumental in the spread of disease, but to their credit, they had the effect of promoting a humanitarian spirit in the care of the sick. Among the Greeks and Romans persons who were ill were looked upon as weaklings and therefore held in contempt and treated accordingly. The spread of Christianity changed this attitude, since

*The Doctor in History, by Howard W. Haggard, Associate Professor of Applied Physiology in Yale University. New Haven Yale University Press. London, Humphrey Milford, Oxford University Press, 1934.

those who were sick were looked upon as being nearer heaven (so they were in the majority of cases) than the strong and healthy. With the Crusades came the age of solicitude for the sick and the first effective efforts towards training doctors for the care of the sick, at Salerno. But the progress of medicine was more or less halting, for eventually the school at Salerno passed out, to be succeeded by a relapse of centuries of darkness until by a circuitous route through Arabia and the Mediterranean to Spain the torch of Greek medicine was carried eventually to Montpellier.

* * *

Speaking of the eighteenth century, Haggard refers to it as the golden age of quacks. In manners and customs the eighteenth was a century of artificiality, of strong class distinction, of powdered wigs and lace ruffs, of elaborate etiquette and of poverty and brutality. The fashionable doctor of England dressed as became an aristocrat, red coat, satin breeches, silk stockings, buckled shoes, a powdered wig and a three cornered hat. He carried also a gold head cane. In the year 1782 a young physician, Jean Nicolas Corvisart, afterwards famous, was refused an appointment to the staff of a Paris hospital because he wore no powdered wig. Parenthetically, it might be added, the reign of terror in France in 1793 placed powdered wigs at a discount, for many of the heads bearing them fell under the guillotine. The physician usually rode in an elegant carriage drawn by a splendidly equipped span of horses which he galloped about London to create an impression that he had a very large practice. The manner of the regular doctor was easily copied by the quack who got away with the show but with a minimum of knowledge. Even men whose names are familiar to all readers of history patronized them. Among the quack's "patients" were Lord Chesterfield, Horace Walpole, Gibbon, the historian of the Decline and Fall of the Roman Empire. One quack (female), with the good of humanity at heart, consented to part with a cure for stone in the bladder for a consideration of 5,000 pounds, which sum was turned over to her by act of parliament. The cure, which was published in the London Gazette in

1739, consisted of a mixture of eggshells, soap, snails together with an assortment of weeds.

And yet this was the century that succeeded Harvey and Sydenham. It was the century that produced Linnæus the botanist, Robert Boyle the chemist, Edward Jenner and many others, some outside the medical profession, whose contributions were of permanent value in the development of medicine as we have it today.

* * *

The stream of history as it flows into the twentieth century finds man more secure against disease than any previous generation of the race, concludes Haggard, and we look in sympathy to the centuries when men groped blindly for the goal which seems almost within our grasp. From a place in the seclusion of the sick-room the doctor, thanks to the discoveries of the nineteenth and twentieth centuries, has come to a period when he may assume social leadership if he will. "The greatest contribution of medicine to public welfare," says the author, "was intelligent cleanliness as a means of preventing the spread of infection. Modern sanitation had its origin in the discoveries of Pasteur, Lister, and Koch. Led by the physician, the civilized world began to clean up, and as it became cleaner the mortality from disease declined and the average length of life increased"; and again, "In the enthusiasm for the social benefits of medical leadership, we have lost sight for a moment of the doctor at the bedside. Sanitation, public health, and public knowledge have not solved all the problems of disease—far from it. What we have witnessed in the three decades of the twentieth century is not so much elimination of diseases as a shift of diseases. As fast as one disease is conquered, another has risen to replace it. Inevitably this must be so. Every man must die; in the long run, there are always as many deaths as births. Few men if any die of 'old age'; disease still claims them. But the diseases change. Only a few years ago tuberculosis was the leading cause of death; today it has fallen to fifth place. In its stead there are diseases of the heart and blood vessels and second to them a newcomer among the leaders of mortality—cancer."

A MOMENT OF MEDICAL HISTORY

W. T. D.

SURGICAL ANESTHESIA

"It has long been an important problem in medical science to devise some method of mitigating the pain of surgical operation. An efficient agent for this purpose has at length been discovered." In this way, Henry J. Bigelow introduced the first report of a surgical operation using ether anesthesia. The "operation was performed by Dr. Warren, and though comparatively slight, involved an incision near the lower jaw of some inches in extent. During the operation, the patient muttered, as in a semiconscious state, and afterwards stated that the pain was considerable though mitigated; in his own words, as though the skin had been scratched with a hoe." Bigelow's account also recorded other and more successful cases of anesthesia at the Massachusetts General Hospital and in the dental practice of William T. G. Morton. His article along with nearly twenty other communications in the *Boston Medical and Surgical Journal* (one by John C. Warren) during November and December of 1846 initiated the modern era of surgical anesthesia.

Though Bigelow's article was inspired by the famous demonstration of W. T. G. Morton in October, 1846, many operations in which pain was reduced or allayed and many anesthetic drugs had received attention previously.

The story of pain allaying drugs is an old one. From earliest antiquity, the sedative and hypnotic effects of certain plant juices were known. Mandrake, henbane and poppy were especially popular in the sleeping potions of the Egyptians, Greeks, Romans and Chinese. Such concoctions of herbs containing atropine, scopolamine and opium were widely used as sedatives. The draughts of a wine containing mandragora were particularly common in attempts to make surgery painless. Sleep producing herbs were likewise applied locally on an afflicted region or were rubbed on the skin in the sup-

position that pain would be relieved. Among the natives of tropical South America, the spittle obtained from the chewing of coca leaves was used as a local anesthetic during operations. In Egypt and China, hasheesh was ignited and its fumes were inhaled for their hypnotic effect. General anesthesia likewise was sought in the inhalation of carbon dioxide vapor among the Romans. Fainting was induced by pressure over the carotid arteries. The compression of nerves causing an extremity to "go to sleep" was another method of inducing a certain degree of anesthesia. Many of these practices of suspending sensation were doubtless dependent to a considerable extent on mental suggestion. Some were nothing more than this. In Egypt, crocodile fat was thought to have anesthetic properties when rubbed on the skin. The rubbing of a part with a so-called "stone of Memphis" and vinegar in an attempt to produce local anesthesia became a widespread habit even outside Egypt.

The methods of applying mandragora and other herbs to affected parts, the use of mandragora wine and the technic of compressing nerves received the attention of Dioscorides and other Greek writers and through them were transmitted to the Arabs. Some knowledge of narcotic herbs even penetrated to western Europe.

During the medieval period in southern Europe, hypnotic drugs were widely used. The inhalation of vapors of narcotic plants and the application of narcotic cataplasms and poultices were as popular as the sleeping potions. In the Salernitan school, sponges came to be used as sops for the juices of narcotic herbs. Sponges dipped into the juices of plants were applied to the forehead to induce sleep. From the time of Nicholaus, the Salernitan, vapors of the "spongia somnifera" were inhaled. The sponges were soaked or boiled for a time in a concoction of opium, juice of the mulberry, hyoscyamus, juice of the hemlock, juice of the leaves of the mandragora and the wood ivy, lettuce seeds and water hemlock. The sponges were then dried. When wanted for use, they were soaked in hot water and applied to the nostrils so that the odors could be inhaled. The use of sleep producing sponges spread from Salernum into northern Europe. Though the sponges were used with changes in formulæ from

the eleventh to the sixteenth century, they were finally discarded. Their use was uncertain and probably was not adapted to the more complicated types of surgical procedure of the sixteenth century. They were little used in the time of Paré. Paracelsus introduced the alcoholic tincture of opium, and from his time till the advent of ether anesthesia, laudanum and similar preparations were the most important pain killing agents.

In the sixteenth century, Valverdi revived the practice of compressing nerves and blood vessels in the region to be operated. Paré also used this method. Schumann in 1676 described the amputation of a leg in which the "ligatura fortis" was used for the reduction of pain and bleeding. Van Swieten, Theden and Juvet among others advocated ligatures or bandages above the site of amputation. The method was only partly successful in pain reduction, and was but occasionally used in the seventeenth and eighteenth centuries.

The application of cold to an operative site was introduced by Marco Aurelio Severino and Thomas Bartholin, but was of temporary importance till the ether spray method of the mid-nineteenth century.

In hypnotism, a method of producing sleep appeared. Greatrakes, the "Irish stroker," in the middle of the seventeenth century and Mesmer a hundred years later exploited hypnotic technic. Though hypnotism was unpopular with the medical profession generally, hypnotic trances had been used to quiet patients during operations. The French surgeon, Cloquet, in 1829, amputated the breast of a woman who was in a hypnotic state. Occasional operations were performed subsequently with the help of hypnotism in Europe, America and India, but because of possible mental upsets and shock in the patient, hypnotism was usually discouraged.

Real advances in anesthesia were an outgrowth of the studies of chemists during the latter eighteenth century and the discovery of the gases, hydrogen (by Cavendish), nitrogen (by Rutherford), oxygen and nitrous oxide (by Priestley).

The introduction of new gases and studies on their properties, particularly their physiological properties, elicited great interest. The gases captivated the public fancy,

much the way the static machine and the Leyden jar had several decades earlier. As with electricity, the gases seemed to promise much in the way of medical benefits. In 1785, Pierson of Birmingham made use of nitrous oxide inhalation in the treatment of asthma. Four years later, Dr. Beddoes opened the Medical Pneumatic Institute for the treatment and study of diseased conditions by means of the inhalation of gases. He hired Humphrey Davy to investigate the properties of the gases. Davy carried on extensive experiments on the inhalation of gases, particularly nitrous oxide. Among other observations, he found that this chemical when inhaled caused an exhilaration or intoxication. He noted in this respect that the inhalation of the nitrous oxide reduced the pain of an erupting wisdom tooth, and suggested that because of its pain-killing features, it would be valuable in surgical procedure. This latter suggestion was ignored, though the gases were used for the treatment of spasmodic respiratory conditions. The vapor of volatile liquids, such as sulphuric and chloric ether, was similarly used.

In the treatment of respiratory diseases and in the demonstration of the intoxicating effects of nitrous oxide and ether, it had been noted that overdoses caused a state of coma similar to a hypnotic sleep. Davy's experiments were frequently repeated in chemistry classes or by itinerant lecturers and the exhilarating effects of nitrous oxide were widely known.

Between 1820 and 1828, Henry Hill Hickman of Shropshire, England, made further studies on the loss of sensation occasioned by the inhalation of vapors. His experiments on dogs, mice and other animals were chiefly concerned with the inhalation of carbon dioxide gas, though he also used nitrous oxide. He became convinced that anesthesia sufficient for surgical purposes could be secured by inhalation. After attempts in both England and France, he was unable to get support from medical societies in the making of experiments with anesthesia, and his early death cut short what might have been a successful demonstration.

In America, the inhalation of nitrous oxide and ether for their exhilarating effects was common. "Laughing gas" and "ether jags" were not unusual accessories to social

entertainments in various communities. This type of experience with ether led Crawford Long of Athens, Georgia, to consider the possible use of ether as an anesthetic. He noted that persons in a state of intoxication were often unaware of injuries received while under the influence of ether. In 1842, he attempted a surgical operation with the patient subjected to ether. Over a period of several years, he anesthetized and operated on other patients. Meanwhile, in 1844, Horace Wells, a dentist of Hartford, Connecticut, independently discovered anesthesia which relieved the pain of tooth extraction. He used nitrous oxide gas. Though Wells acquired a local reputation for the use of nitrous oxide as an anesthetic, the only publication of his success was an incidental comment in the *Boston Medical and Surgical Journal* of 1845 by C. W. Ellsworth: "The nitrous oxide gas has been used in quite a number of cases by our dentists during the extraction of teeth, and it has been found, by its excitement, perfectly to destroy pain. The patients appear very merry during the operation and no unpleasant effects follow." Though there is now no doubt that both Long and Wells had used surgical anesthesia safely and had performed operations painlessly, their success was purely local and did not lead to the widespread use of anesthetics.

In 1846, William T. G. Morton, a dentist in Boston, and a former associate of Wells, concluded from certain experiments that he had developed a satisfactory anesthetic. He requested an opportunity from John C. Warren to demonstrate the use of inhalation during an operation. This was granted and the exhibition of October 16, 1846, proved successful. Bigelow and Warren published their opinions on the method and with the prestige of the Boston General Hospital back of it, the method of inhalation of anesthesia spread through America and Europe within a few months.

Anesthesia had been sought centuries earlier; presumably successful methods had been proposed, but not consummated; surgical anesthesia had been used for such operations as the extraction of teeth, minor amputations and the removal of tumors, but the method had not previously been broadcast.

By 1847, ether was universally used and studies on the physiological action of the drug were instituted by such physiologists

as Magendie, Roux and Flourens. The latter extended his studies to chloroform. Later in the same year, James Y. Simpson used chloroform in surgical cases and, because of his writings, chloroform almost supplanted ether in England. In America, chloroform was less important than ether. Following 1860, other drugs such as kerosene (1861) and bichloride of methylene (1867) were temporarily used for their anesthetic effects. About this time, nitrous oxide, which had been little used for two decades, came into its own as an important anesthetic. A mixture of alcohol, chloroform and ether, the so-called A.C.E. mixture, came into wide use. Ethyl chloride was known, but it was little used until 1895. Ethylene was not used until much later.

Fatalities occurred in 1847 from both chloroform and ether, and it was soon recognized that anesthetics required skill in their administration. In 1858, John Snow published the results of a ten year investigation dealing with methods of administering anesthesia and the causes of death through anesthesia. Benjamin Ward Richardson and Joseph P. Clover carried the investigations further. The principles of re-breathing anesthetics and of oxygen admixture with anesthetics were introduced with the work of these men.

Many types of chloroform and ether inhalers for the administration and proper admixture came into use. In addition to the inhalation of anesthetics, these agents were adapted for insufflation, for rectal and for intravenous administration. The former two methods were important in certain special operations while the latter method was only of transient importance.

From ancient times, no distinction was made between anesthetic agents for local or for general application. The same drugs which served in general narcosis were thought to act locally, if applied properly. Such drugs as opium and atropine were often applied locally with the expectation that the hypnotic effect of internal medication would be duplicated in local regions. There were early attempts to use chloroform, carbon dioxide and ether locally, but these met with little success. About 1836, Lafargue attempted to treat neuralgias by applying morphine and other medicaments into the tissues in the region of afflicted nerves. He devised a needle-trocar for placing his morphine pastes into incisions over

nerve trunks. Numerous modifications of this technic appeared. Taylor and Washington of New York in 1839 made incisions and injected morphine solutions into a region by means of an Anel syringe, a small instrument with a tapering tip. In 1843, Alexander Wood of Edinburgh adapted a sharpened hollow needle to the syringe so that subcutaneous injections could be made without an incision. Thus, the hypodermic syringe came into use. Rynd of Dublin also used methods of subcutaneous injection in 1844.

It was thought at this time that the local injection of morphine over a painful region caused local anesthesia wholly distinct from any general effects of the drug. Charles Hunter in 1859 showed that injection at a distance was equally effective and thus disproved the old idea that local narcosis should be expected from more general hypnotic drugs. Several decades later, it was found that the injection of water or dilute salt solutions subcutaneously had a brief local anesthetic effect due to the turgor which was induced in tissues. This phenomenon probably accounts for the local anesthesia thought to be characteristic of morphine. Following a suggestion of Claude Bernard in 1869, the injection of morphine came to be used as an accompaniment of general anesthesia.

The introduction of Richardson's ether spray in 1867 and its later modifications for ethyl chloride made cold the first satisfactory local anesthetic. Arnott had previously, in 1848, used bags of ice over the field of an operation for their anesthetic effect.

Local anesthesia with chemicals became a practical measure, after the anesthetic properties of cocain were discovered. Godke isolated the alkaloid from coca leaves in 1855 and during the subsequent three decades, several studies were made on the pharmacological properties of the drug. Coupard and Borderon in 1880 discovered the anesthetic effect on the eye though it remained for Karl Kollar in 1884 to introduce the drug into ophthalmological practice as a satisfactory local anesthetic. Within a year, William Halstead and James L. Corning had injected the drug hypodermically for its local anesthetic properties. Hypodermic and infiltration anesthesia were further developed by Schleich in Germany. The principle of cerebrospinal anesthesia

was discovered by Corning, though the application of lumbar puncture to major surgery was largely due to the work of Bier (1899) and Matas (1900). The toxicity of cocain led to a search for cocain substitutes and to the synthesis of novocain in 1905 by Alfred Einhorn and Heinrich Braun. Numerous other substitutes were later synthesized. Braun also introduced the practice of injecting adrenalin with a local anesthetic so that the latter would not be absorbed as quickly and disseminated throughout the body.

Though morphine had been used in conjunction with general anesthesia in the latter nineteenth century, its widespread use as a sedative prior to or during general anesthesia has been a more recent development. The introduction of barbituric acid compounds by Emil Fischer in 1903 has given the anesthetist an important group of narcotic drugs for combination with anesthesia. These have been used considerably in the past ten years. G. W. Crile of Cleveland has been particularly concerned since 1910 with anesthetics in their relation to the reduction of surgical shock. In his principle of anoci association, local and general anesthetics have been combined; often a general anesthetic is used merely as an analgesic along with a local anesthesia. The selection of anesthetics for particular cases, the combination of local and general anesthesia and the use of narcotic agents in conjunction with anesthesia have been the chief advances of the present century.

AN OLD ONE REVISED

Waitress: "Hawaii, Gentlemen. You must be Hungary."

First Customer: "Yes, Siam, and we can't Rumania long, either. Venice lunch ready?"

Waitress: "I'll Russia to a table. What will you Havana?"

Second Customer: "Anything at all, but can't Jamaica little speed?"

Waitress: "I don't think we can Fiji that fast, but Alaska."

First Customer: "Never mind asking anyone. Just put a Cuba sugar in our Java."

Waitress: "Sweden it yourself. I'm only here to Servia."

Second Customer: "Denmark our bill and call the Bosphorus. He'll probably Kanya. I don't Bolivia know who I am."

Waitress: "No, and I don't Carribean. You fellows sure Armenia."

Boss: "Samoa your wisecracks, is it? What's got India? You think maybe this arguing Alps business?"

Both Customers: "Canada noise. Spain in de neck. We Moscow now."

Digest Magazine, March, 1935.

HISTORY OF THE WOMAN'S AUXILIARY TO THE WAYNE COUNTY MEDICAL SOCIETY

Isabel Frances Grace Connelly†

Detroit

In compiling this history of the Woman's Auxiliary to the Wayne County Medical Society, your historian has delved into all available sources of information. The dictionary defines history as "a systematic record of past events—especially the record of events in which man has taken part."

The logical starting place was "The First Twelve Years," the history of the Woman's Auxiliary to the American Medical Association, and search was made for the first mention of Michigan. This was found to be at the Chicago convention in 1924, when Michigan was represented unofficially by Mrs. Guy Kiefer, in the group of interested women gathered to hear the account of the progress of the infant auxiliary. The next mention was at the Minneapolis meeting of 1927-28, where was mentioned the newly organized state of Michigan. Then in the Michigan history, in the same book, we find that on June 16, 1927, at Mackinaw Island, under the organizing chairmanship of Dr. Caroline Bartlett Crane, the State Auxiliary was formed and the first president, Mrs. Guy Kiefer of Detroit, was elected.

In the JOURNAL of the Michigan State Medical Society of May, 1927, was the following:

"The House of Delegates directed the organization of a Woman's Auxiliary. President Jackson appointed an organization committee with Mrs. Caroline Bartlett Crane of Kalamazoo as chairman. During the past month a communication was addressed to each County Society requesting the appointment of a local organizer or committee. Replies have thus far been received from the following . . ."

Then came the names of twelve counties and their nominees, the final one being Wayne County, with Mrs. Robert Beattie, 1455 West Grand Blvd., Detroit, nominated as organizing chairman.

Appearing in the *Bulletin* of the Wayne County Medical Society in November, 1927, was the following:

FIRST MEETING OF THE WOMAN'S AUXILIARY TO THE WAYNE COUNTY MEDICAL SOCIETY

"Members of the Society are requested to call the attention of their wives to the organization of a Woman's Auxiliary to the Wayne County Medical Society. Mrs. Guy L. Kiefer, the president of the Woman's Auxiliary to the State Society, has set November 16, 1927, at 12:30 p. m., as the time of the first meeting, at which organization, the choosing of objectives, and the election of officers will take place.

"From all that can be gathered, this new group will be a power for good in more ways than one. Affiliated with the state and national organizations, much aid can be rendered by it, in matters pertaining to public health, both in an educational and in a legislative way. Social activities of the Society, too few in number at present, can also be increased in number and extent, and it is hoped that doctors will interest their wives in this worthwhile organization."

It would not be possible to record here the many Detroit women whose preliminary work and interest in the auxiliary idea made possible the organization of our Auxiliary, but it might interest you to know that in response to the call of Mrs. Kiefer, twelve women appeared, and ten of them paid their dues on that first day.

The fact that thirteen sat down to lunch did not bother anyone, for presiding over that table was the benevolent Spirit of Auxiliary.

The thirteen women were: Mrs. Guy L. Kiefer, State President; Mrs. James H. Dempster; Mrs. Jacob J. Rupp; Mrs. Vinton A. Bacon; Mrs. A. H. Whittaker; Mrs. Basil L. Connelly; Mrs. Clarence I. Owen; Mrs. F. P. Mabey; Mrs. J. Hamilton Charters; Mrs. Charles W. Knaggs; Mrs. Charles J. Barone; Mrs. Lawrence F. Eder, and Mrs. George Van Amber Brown.

Of the original thirteen, eight are still active members, Mrs. Kiefer is our one honorary member, two have gone on the inactive list, and two have moved from Detroit and are active in Auxiliaries in their own states.

At this first meeting, Mrs. Max Ballin, a woman of exceptional ability and experience, was chosen to be the temporary chairman for the second meeting and Mrs. George Van Amber Brown, wife of the president of Wayne County Medical Society, was made secretary-treasurer, pro tem.

To Dr. James H. Dempster, president in 1926 and 1927, and to Dr. George Van Amber Brown, president 1927-1928, should go the credit for making possible the organization of our auxiliary. They saw the value and the possibilities for good in such an aid to the Medical Society.

One hundred and twenty-five women came to the second meeting and the first permanent officers were elected on January 28, 1928. On February 13, 1928, the third meeting, the first draft of our Constitution and By-Laws was read and committees were created and chairmen were appointed and the Woman's Auxiliary to the Wayne County Medical Society was a living and vital thing.

Effort to interest doctors' wives in becoming Auxiliary members was one of the main objectives for several years. The frequently asked question "What is the purpose of such an organization?" and the just as frequent excuse, "I belong to so many clubs now, I can't join another," decided the Auxiliary officers to make the purpose so compelling that no ethical doctor's wife could afford not to be a member; and that the procedure of meetings should not be patterned on the lines of a Woman's Club meeting.

Perhaps our most illuminating experience was in the opportunity of being hostess to the Auxiliary to the American Medical Association in June of 1930. Then it was that we were able to lift our eyes from the microscope of self centering interest, and see in a larger way the horizon of unbounding opportunity for doing good.

Following that experience, came years of valuable service to our husbands and to the public.

Our Student Loan Fund made possible the completion of the medical education of an exceptionally gifted and appreciative young man who at present is making a place for himself in the city.

Our Public Relations activities along various lines have been received with enthusiasm by the public.

Our influence has been brought to bear on the legislature, and bills harmful to the medical profession have been defeated, through the efforts of the Legislative Committees.

Hygeia Committees through the years have done much to inform and enlighten the public.

Through the constant and unrelenting labor of the various Press Committees, our position in the city has attained a prominence which it rightfully deserves.

Social affairs have been frequent and varied, but all with the effort to bring about a good fellowship and friendliness. This has been achieved.

Many wholesome activities have developed since

†Mrs. Basil L. Connelly.

the Wayne County Medical Society has been housed in the Whitney mansion. Two innovations in the past two years have caused widespread interest: first, a Study Group, which sponsored two series of lectures on the history of medicine from ancient times through contemporary medicine; second, two Arts and Crafts exhibits giving an opportunity to Auxiliary and Wayne County Medical Society members to show their artistic talents.

The lack of an adequate instrument on which visiting artists could play, brought about the purchase of a \$1,000 Steinway grand piano; which, upon the completion of the purchase, the Auxiliary presented to the Medical Society. The gathering together of that thousand dollars, in the very worst years of the depression period, set an all time mark for unity of purpose among Auxiliary members.

In the earlier days, the Auxiliary strove hard to justify its existence; now it shares the honors and advantages with the Wayne County Medical Society and is taken as a matter of course, and is referred to, and appealed to, and depended on, as it should be. No longer do we offer excuses for being; we are.

Your historian has purposely mentioned few individuals, for she feels that this, of all organizations, has been evolved and developed through the faith, the enthusiasm and the hard, unending effort of every woman who has been an Auxiliary member since its beginning, and to mention one and not another might unwittingly do an injustice.

But the lists of officers throughout these years are recorded and therefore are history. They follow:

November 16, 1927. Organization meeting.
Organizing Chairman—Mrs. Guy L. Kiefer.
Chairman, pro tem.—Mrs. Max Ballin.
Secretary-Treasurer, pro tem.—Mrs. George Van Amber Brown.

January 28, 1928.
President—Mrs. Clarence I. Owen.
First Vice President—Mrs. Basil L. Connelly.
Second Vice President—Mrs. John M. Carter.
Third Vice President—Mrs. H. P. Doub.
Fourth Vice President—Mrs. A. W. Kipp.
Recording Secretary—Mrs. Lawrence F. Eder.
Treasurer—Mrs. Jacob R. Rupp.

February 13, 1928. Additional officers elected.
Corresponding Secretary—Mrs. L. B. Cowen.
Custodian—Mrs. Claire Straith.
Auditor—Mrs. J. S. Wendell.

October 10, 1928.
Mrs. Lawrence F. Eder (resigned).
Mrs. I. I. Bittker (appointed to take her place).

December 10, 1928.
Mrs. C. I. Owen (resigned because of illness).
Mrs. Basil L. Connelly (first vice president took her place).
Mrs. John Carter moved into first vice presidency.
Mrs. C. I. Owen, unanimously made second vice president.

1928-1929.
President—Mrs. Basil L. Connelly.
First Vice President—Mrs. John M. Carter.
Second Vice President—Mrs. C. I. Owen.
Third Vice President—Mrs. H. P. Doub.
Fourth Vice President—Mrs. A. W. Kipp.
Recording Secretary—Mrs. I. I. Bittker.
Corresponding Secretary—Mrs. L. B. Cowen.
Custodian—Mrs. Claire Straith.
Auditor—Mrs. J. S. Wendell.

1929-1930.
President—Mrs. Ira J. Dix (resigned March 24).
First Vice President—Mrs. Stanley Lassaline (too ill to take the presidency).
Second Vice President—Mrs. Elmer Whitney (acting president—March, April, May).
Recording Secretary—Mrs. A. W. Kipp (resigned in January).
Mrs. Elmer Whitney (acting secretary February and March).
Mrs. Perry Gittins (acting secretary April and May).
Corresponding Secretary—Mrs. Charles Barone.
Treasurer—Mrs. Ezra Lipkin.
Auditor—Mrs. Wm. S. Summers.
Custodian—Mrs. J. R. Marshall.

1930-1931.

President—Mrs. Andrew S. Brunk.
First Vice President—Mrs. Alex Cruikshank.
Second Vice President—Mrs. Geo. Van Rhee.
Recording Secretary—Mrs. Perry Burnstine.
Corresponding Secretary—Mrs. Perry Gittins.
Treasurer—Mrs. W. H. Reiman.
Auditor—Mrs. F. B. Peck.
Custodian—Mrs. M. K. Mihran.

1931-1932.

President—Mrs. Edw. Minor (resigned).
First Vice President—Mrs. R. E. Loucks (became president).
Second Vice President—Mrs. Claire Straith.
Recording Secretary—Mrs. L. E. Daniels (resigned).
Mrs. Zina B. Bennett (appointed).
Corresponding Secretary—Mrs. L. O. Geib.
Treasurer—Mrs. Wm. H. Reiman.
Auditor—Mrs. Walter Wilson.
Custodian—Mrs. Leslie Henderson.

1932-1933

President—Mrs. Claire Straith.
First Vice President—Mrs. F. L. Hartman.
Second Vice President—Mrs. J. H. Dempster.
Recording Secretary—Mrs. A. O. Brown.
Corresponding Secretary—Mrs. L. Orecklin.
Treasurer—Mrs. S. P. L'Esperance.
Custodian—Mrs. W. L. Hulse.

1933-1934.

President—Mrs. Claire Straith.
First Vice President—Mrs. Frank W. Hartman.
Second Vice President—Mrs. James H. Dempster.
Recording Secretary—Mrs. A. O. Brown.
Corresponding Secretary—Mrs. Harry Plaggemyer.
Treasurer—Mrs. S. P. L'Esperance.
Financial Secretary—Mrs. Wm. Reiman.
Custodian—Mrs. W. L. Hulse.

1934-1935.

President—Mrs. Frank W. Hartman.
First Vice President—Mrs. James H. Dempster.
Second Vice President—Mrs. L. O. Geib.
Third Vice President—Mrs. F. C. Kidner.
Recording Secretary—Mrs. Harold J. Hammond.
Corresponding Secretary—Mrs. Harry W. Plaggemyer.
Treasurer—Mrs. Roger V. Walker.
Financial Secretary—Mrs. H. F. Sawyer.
Custodian—Mrs. W. E. Blodgett.

1935-1936.

President—Mrs. Frank W. Hartman.
Vice President—Mrs. James H. Dempster.
Second Vice President—Mrs. Ledru O. Geib.
Third Vice President—Mrs. Frederick C. Kidner.
Treasurer—Mrs. Roger V. Walker.
Recording Secretary—Mrs. Harold J. Hammond.
Corresponding Secretary—Mrs. Allen W. McDonald.
Financial Secretary—Mrs. Harold F. Sawyer.
Custodian—Mrs. Wm. E. Blodgett.

I submit this, not with pride, but with a certain humility at variance with the impressive title of Historian.

FATAL ASTHMA: REPORT OF CASE WITH BRONCHIAL MEASUREMENTS

The case reported is, Howard M. Bubert and C. Gardner Warner, Baltimore, believe, a fatality from true bronchial asthma. From a pathologic standpoint the changes observed in the bronchial structures as well as the unusual contents of the lumen coincide with those reported by Huber and Koesler and by Alexander and Kountz. In the author's opinion, whorling and inspissation of mucus, together with the heavy eosinophilic infiltration, are characteristic of bronchial asthma. These mucous casts of the small bronchi represent embryonic Curschmann's spirals, which are later coughed up, after the relaxation of the muscle spasm. They should be present "in situ" in those cases in which death comes during an asthmatic paroxysm. The degeneration of the mucous glands is probably the result of prolonged overactivity. The eosinophilic infiltration is as yet inadequately explained. The changes in the heart and kidneys in the case reported were negligible. The slight hypertrophy of the right ventricle was to be expected with partial obliteration of the capillary bed by the associated emphysema. The manifestations of a mild chronic nephritis with some tubular degeneration appears unrelated to the outstanding features in the case.—(*Journal A. M. A.*, April 27, 1935.)

DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

THE A. M. A. CONVENTION

Your observer notes that the Weather Bureau estimates that five million tons of rain fell on Atlantic City on the first day—that never in the history of the world have so many medical men attended a convention. With sunshiny weather during the rest of the week, Atlantic City proved once more that it is the ideal place to hold such a meeting.

The auditorium holds seven thousand people and at the opening meeting one thousand or more were turned away.

The commercial exhibits were never so numerous—never better staged and never attracted more attention. Outstanding in excellence, in interest and instruction were the scientific exhibits, of which there were 236. Especially noteworthy was the Diabetic Exhibit, under the supervision of Doctor Joslin, and especially instructive were the talks given every half hour throughout the day, in an adjacent room, by the leaders in the clinical and laboratory study of this disease. This method of covering a special subject has a practical application of greatest value. It was used for other special subjects and drew a large audience. Moving pictures were used freely throughout the exhibit to greatest advantage. Here in the scientific exhibit the progress of medicine, surgery and the specialties could be visualized. Here the practical application of the latest laboratory discoveries and the latest thoughts on the subject were brought simply, clearly and efficiently to the visiting doctor. It was the finest scientific exhibit that was ever put on and this alone would make the trip worth while.

The sections were well attended and the ground of the newest things in medicine and surgery was fully covered by the best minds of Canada and the United States.

The Business End

It seemed to your observer, as he conversed with various members on the evening before the first session of the House of Delegates, that there was evident an atti-

tude of mind that is perhaps best expressed by the phrase, "Where do we go from here?" It was an attitude which, apparently at least, persisted throughout most of the session. The economic problem was much in the minds of the delegates—the President's Social Security program a frequent topic of conversation. Yet, Doctor Leland's excellent and most informative report from the Bureau on Medical Economics apparently bored the House and it was sent to the Reference Committee only partially read.

This year, after several previous attempts, proponents of some action on the Birth Control question succeeded in getting the subject to the Board of Trustees, who will arrange for further study and investigation.

The House was satisfied to reiterate the principles stated in the 1934 session and at the special meeting of the House of Delegates, to wit:

Opposition to compulsory sickness insurance, opposition to state medicine per se and approval of voluntary sickness insurance, properly guarded in its operation.

Doctor C. Henshaw Kelly made a telling and well received speech in explanation of California's attitude and the occasion for California's sponsorship of the insurance bill before its state legislature.* Later the House indicated definitely that California was not fully restored to its good graces by refusing to elect the California candidate for member of the Board of Trustees and, not fully satisfied with this bit of discipline, by a narrow margin defeated Doctor Warnshuis, who has been Speaker of the House for thirteen years. Doctor Moll, a candidate for a vacancy on the Board of Trustees, lost to Doctor James R. Bloss of West Virginia, and some Michigan doctors wonder if his defeat could possibly have been contributed to or was influenced by Michigan's vigorous insistence at the Cleveland

*The California legislature adjourned during the week without passing this bill or any substitute for it.

Session that a definitive policy in regard to health insurance be promptly set up.

A pleasant Virginian, James T. Mason, who transplanted himself to Seattle, Washington, where he became one of the leading surgeons of the northwest, was made President-Elect.

The next Annual Meeting will be in Kansas City in May, a month earlier than usual, in order to avoid the hot weather frequently prevalent in June.

The excellence of the program fully justified the large attendance. The experiment of a joint meeting with the Canadian Medical Association was a great success. Men came from the four quarters of this continent, and were well repaid.

The activities of the House of Delegates were not especially noteworthy. With monotonous regularity, the reports of Reference Committees were adopted without discussion. To some this seemed to indicate a substantial unanimity of opinion and again to others it suggested that this unanimity arose out of a certain confusion of thought or of a lack of sufficient preparedness to intelligently discuss the subject before the House. Changes in the social order, imminent as they are, are not sufficiently well defined for definite action. The responsibility rests heavily on the elected officers and the Board of Trustees of the A. M. A. to protect, as far as they may, the doctor and his patient from ill advised, impractical social experiments and to stand solidly for good medicine, intelligently applied. It goes without saying, that, with this objective, the doctor must have a satisfactory degree of economic security and a definite independence of thought and action.

LEGISLATIVE ACCOMPLISHMENTS

THE AFFLICTED CHILD ACT—

Senate Bill No. 277, was passed in the closing hours of the legislature and was signed by the Governor on May 28. The law permits a Probate Judge to send those afflicted children coming under this law to local hospitals and allows compensation to the attending physicians and surgeons. The cost of the medical and hospital care is assumed by the state and is paid through the hospitals. As in the law which this supplants, the operation of the act is placed under the control of the Crippled Children's Commission, upon which, by appointment of the

Governor, Doctor Harold B. Fenech, of Detroit, represents the profession.

The only opposition to the bill came from the Crippled Children's Commission, who felt that a special appropriation should accompany the bill to make it satisfactorily operative. The Legislative Committee felt that since the bill provides for "reasonable" compensation they could promise the Crippled Children's Commission that temporarily the doctors would be willing to accept a low limit of fees. With this statement, the Crippled Children's Commission withdrew their insistence of an accompanying appropriation, and, upon reiteration by the Legislative Committee of this statement, after the passing of the bill, the Governor signed it. No increased appropriation is made to cover the compensation to the doctor. The Crippled Children's Commission will be compelled to operate the act with the appropriation which was assigned to it before the passage of this act unless authority is granted to incur a deficit, or funds be obtained from other sources. When the act became law the Crippled Children's Commission requested a meeting with authorized representatives of the Society for the consideration of a fee schedule.

Doctor Powers appointed Doctors Luce, Penberthy and Urmston to sit in with the Commission as unofficial observers and to convey the viewpoint of the Michigan State Medical Society to the Crippled Children's Commission. This contact continues. This Committee reports that the Crippled Children's Commission and representatives from the Auditor General's office are thoroughly in accord with the professional ideal which looks to the maintenance of a high class of medical service, together with reasonably adequate fees for the medical profession. However desirable this ideal, the fact remains that this bill was passed without any covering appropriation.

The statement is made that on the basis of the present fee schedule, in the construction of which (Schedule A) the Society was represented by a Committee headed by Doctor John Jackson (August, 1933), the funds available would be exhausted in three months.

Doctor Bradley, Chairman of the Legislative Committee, in the *Detroit Medical News*, says, "This act establishes a broad principle in medical care in Michigan.

This, your Legislative Committee believes, is a definite step forward in medical economics."

The profession will feel that the establishment of the principle will justify certain sacrifices. However, the Committee, working with the Crippled Children's Commission in the attempt to straighten out this knotty problem, is not empowered to bind the Society to any fee schedule though it may feel justified in making some tentative and temporary agreement with the Commission to cover the next two or three months if such action seems necessary in order to permit the work to go promptly forward. When and if the Crippled Children's Commission and the Auditor General find the funds to carry on this work, the membership will be promptly notified.

The Legislative Committee, in addition, are able to report that House Bill No. 256, raising the fee for mental examinations from \$3.00 to \$5.00 passed without opposition and that the Osteopathic Bill, which was simply for the regulation of practice in their own group, was passed and was not deemed worthy of special opposition.

The Legislative Committee, Doctor J. B. Bradley, Chairman, Doctors L. G. Christian, Philip Riley, Wm. Hyland and L. J. Gariepy, who had the valuable assistance of Doctor H. E. Perry, well versed in the work by reason of his experience, have worked very hard over many weeks. The Society will appreciate the sacrifices which this Committee has made in its effort to produce real accomplishments in legislative matters for the Society.

AS THE MATTER NOW STANDS

MICHIGAN CRIPPLED CHILDREN COMMISSION

400 Hollister Building
Lansing, Michigan

June 10, 1935.

To the Supt. of Approved Hospitals:

Afflicted Children

Act 274, Public Acts of 1913, which provides for medical and surgical treatment of afflicted children, was amended by Act 94, Public Acts of 1935, which became effective on May 28, 1935, and which, among other changes, places the payment of physicians' and surgeons' fees upon the State and requires that a fee schedule be established.

We wish to advise that at a meeting of the Crippled Children Commission on June 6, 1935, it was recommended to the Auditor General that the present fee schedule "A" be re-adopted, but due to the

fact that there were no funds appropriated with which to pay the excess costs provided for in Act 94, that payment to physicians and surgeons be made while funds are available, at fifty per cent of the fee schedule "A" and when such funds are exhausted, at two per cent of the schedule "A."

The following exceptions shall apply under the fifty per cent reduction: tonsil and adenoid cases shall be billed at a rate not to exceed \$7.50; and medical cases be limited to a maximum charge of \$20.00 regardless of the number of visits made or the length of time the patient is served.

You may, therefore, proceed to bill physicians' or surgeons' fees in accordance with the above instructions from Schedule "A" which you have on file.

No charge is made, at least for the present, in Fee Schedule "B."

Respectfully submitted,
MICHIGAN CRIPPLED CHILDREN
COMMISSION
Per Harry H. Howett,
Secretary-Treasurer.

WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.
MRS. F. M. DOYLE, Secretary, Kalamazoo.

Bay County

The Bay County Auxiliary held its annual meeting, May 1, at the Elizabeth McDowell Bailey Nurses Home. Dinner was served preceding the business session. The following officers were elected: President, Mrs. L. F. Foster; president-elect, Mrs. A. L. Ziliak; vice president, Mrs. R. E. Scrafford; secretary, Mrs. Kenneth Stuart; treasurer, Mrs. H. M. Gale; corresponding secretary, Mrs. Edwin C. Miller.

The last meeting of the year was held on May 29 with a dinner meeting at the Wenonah Hotel. The following committee chairmen were named by Mrs. L. F. Foster, president: Mrs. R. C. Perkins, program; Mrs. A. D. Allen, membership; Mrs. C. F. Tarter, publicity; Mrs. M. R. Slattery, dinner arrangements; Mrs. D. J. Mosier, telephone. Mrs. L. F. Foster was elected delegate to the State Convention to be held in September at Sault Ste. Marie with Mrs. A. L. Ziliak as alternate. Mrs. Slattery was in charge of the dinner, at which places were laid for twenty-three at tables centered with spring flowers.

Jackson County

Fifteen guests from Ingham, Calhoun and Kalamazoo County auxiliaries attended the luncheon meeting of the Jackson County Auxiliary which was held May 21 in the gardens of the J. C. Smith home. The Kalamazoo County president, Mrs. R. J. Hubbell, told of her group's activities during the past year and Mrs. F. T. Andrews, state president, gave a brief report on "Medical Legislature Proceedings." Dr. Louis Hirschman, of Detroit, gave an illustrated talk on "Some Japanese Impressions."

Among those who attended were Mrs. Guy L. Kiefer, state chairman of organization; Mrs. J. Earl McIntyre, state historian, and Mrs. E. S. Peterson, state chairman of legislation.

Kalamazoo County

The coöperative dinner served at 6:30 at the home of Mrs. C. L. Bennett on May 21 was followed by

the annual business meeting of the Woman's Auxiliary to the Academy of Medicine. Officers elected were, as follows: President, Mrs. C. L. Bennett; president-elect, Mrs. Clarke B. Fulkerson; first vice president, Mrs. W. W. Lang; second vice president, Mrs. H. A. Rigternik; secretary, Mrs. Ralph B. Fast; treasurer, Mrs. James G. Malone. Mrs. Jerome R. Head, Chicago, wife of the speaker for the evening at the Academy of Medicine meeting, was a guest.

Mrs. I. W. Brown assisted Mrs. C. L. Bennett as hostess. Thirty members were present.

Saginaw County

Thirty-five members of the Saginaw County auxiliary motored to Freeland Friday, May 24, for their regular meeting held in the form of a luncheon at the Idle Inn Cafe.

Luncheon was followed by a short business session conducted by the new president, Mrs. Milton G. Butler, who announced the appointment of the following as committee chairmen: Program, Mrs. W. P. Martzowka; entertainment, Mrs. Cecil W. Ely; membership, Mrs. Robert Jaenichen; legislative, Mrs. F. J. Cady; press, Mrs. L. C. Harvie; *Hygeia*, Mrs. D. E. Thomas; public relations, Mrs. W. H. Pickett; flowers, Mrs. H. J. Meyer.

The members were entertained at a social meeting afterward at the home and Dr. and Mrs. Frank Ostrander in Freeland. Following bridge, the guests enjoyed a visit to the Ostrander gardens.

Tuscola County

The Tuscola County Auxiliary held its annual meeting in April and elected the following officers: Mrs. Maurer, of Reese, president; Mrs. Race, of Caro, vice president; Mrs. Hoffman, of Vassar, secretary; and Mrs. Bates of Kingston, treasurer.

Mrs. Savage, past president, states that "our attendance has greatly increased and the papers assigned by the program committee have been well written and enjoyed by all. We hope to promote the circulation of *Hygeia* in the county schools this year and carry out as many suggestions as possible from the Medical Society and the State Auxiliary."

OBITUARY

Dr. Philip D. Amadon

Dr. Philip D. Amadon of Monroe, one of the leading young surgeons of the state, died of pneumonia in the University Hospital at Ann Arbor on June 9, 1935.

Graduating from the University in 1926 he spent the four years following in the University Hospital as interne and resident and was also junior and later senior instructor in the medical school. He was a member of Alpha Omega Alpha, an honorary medical fraternity, and a member of Beta Chapter, Phi Sigma, an honorary biological society.

He established his office in Monroe in 1930 and quickly allied himself with the local society, in which he was a very active member. In 1931 he was elected as delegate to the state society and continued in the office of delegate until his death. He was a fellow of the American College of Surgeons.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

Meningitis and Poliomyelitis

It is perhaps well at this time to consider the probabilities of an increased prevalence of meningococcus meningitis and possibly of outbreaks of the disease during the next year or so. Michigan was last visited by a severe outbreak of this disease during 1929 and 1930. For the year 1929 there were 1,864 cases reported. The outbreak continued on through the winter months of 1930 and 901 cases were reported for that year. Thus, for this two year period there was a total of 2,765 cases, which is approximately three times greater than for any other two year period since 1900, when accurate records were first kept.

Since 1930 meningitis has been decreasing in incidence in Michigan until 1935. For the year 1934 there were 53 cases reported. There have already been 42 cases reported for the first five months of this year, and this number is twice the number reported for the same period of 1934. The incidence, although somewhat increased, is still quite low, but most significant is the fact that meningitis has throughout the country been running almost three times higher in incidence during 1935 thus far than for the corresponding period of 1934.

Meningitis is a somewhat seasonal disease, its highest incidence usually being in the spring months. Therefore, we may hope that there will be no outbreak or sudden increase in incidence until another winter or spring. Nevertheless, it is the history of meningitis that the endemic incidence builds up gradually over a period of two or three years until it reaches a peak, at which time there are apt to be sharp outbreaks with very high death rates. Such an outbreak occurred in Saginaw during the winter and spring months of 1929. In this outbreak there were 264 cases and 85 deaths.

The U. S. Public Health Service calls attention to the general increase in incidence in the Public Health Report for May 10, 1935. While we may escape any great incidence or severe outbreaks for another year or two it is well to keep in mind that judging from the epidemiological behavior of meningitis we may expect to have more meningitis during the next two or three years than we have had for the same period just past. It is well for physicians to be sharply on the lookout for possible cases of the disease.

It may not be amiss in connection with a warning regarding meningitis to speak also of poliomyelitis, inasmuch as we are now approaching the season of increased incidence and these two diseases are sometimes confused and rather difficult to differentiate.

The incidence of poliomyelitis has so far this year been quite low, seven cases for the first five months as compared to fourteen for the same period in 1934. If these small figures have any significance we would not expect any great increase in incidence of poliomyelitis during this year.

C. D. B.

Interchange of Death Certificates

During the last few years there has been an interchange of information between the states relative to deaths. This is a voluntary matter and each state sends to the Bureau of Census at Washington each month copies of the death certificates of resi-

dents of other states dying in their state. These are then distributed to the various states through the Bureau of Census.

This is exceedingly valuable information and it will increase in worth as time goes on. Very often in the attempt to adjust a real estate title it is necessary to prove the death of some individual and there may be no one available who remembers when and where the individual died.

An interesting case of this kind came up a short time ago when a prominent attorney from one of our cities came to our office for a copy of the death certificate of a resident of his city. There was no record on file but he was very insistent that the person had died in that city. On further examination of the records, we discovered that the person had died in New York State, and we were able to refer him to the certificate number in the New York files and he secured his necessary copy without any difficulty.

This department does not issue copies of death certificates from other states, because, of course, we do not have the original certificate, but it answers every purpose if we can refer the inquiry to the proper state with definite information as to their file number of the record.

In some states it is probable that the movement of a sufficient number of deaths might affect the death rate. In Michigan, however, this is not true.

It is interesting to note that during the year 1934, 523 Michigan residents died in other states according to returns that have been made to this department, and at the same time there were 517 deaths of residents of other states in Michigan. These figures almost balance off. There were only three states in the Union which were not affected one way or the other by this interchange of certificates with Michigan. These were Delaware, Idaho and Nevada. This reciprocal interchange of certificates is followed by Canada, but not by other countries. There were 47 Michigan residents dying in Canada and 55 Canadian residents died in Michigan. In addition to this there were four other deaths of persons from foreign countries. This included one each from "Europe," England, Australia, and Brazil. A tabulation by states appears below.

States	Michigan Residents Dying in Other States	Residents of Other States Dying in Michigan
Alabama	3	2
Arizona	10	2
Arkansas	1	0
California	30	8
Colorado	6	1
Connecticut	3	2
Delaware	0	0
District of Columbia	3	2
Florida	42	10
Georgia	3	1
Idaho	0	0
Illinois	99	92
Indiana	39	61
Iowa	4	11
Kansas	4	2
Kentucky	3	3
Louisiana	1	1
Maine	0	1
Maryland	5	0
Massachusetts	5	4
Minnesota	0	6
Mississippi	2	1
Missouri	2	9
Montana	1	0
Nebraska	2	1
Nevada	0	0
New Hampshire	0	1
New Jersey	3	5
New Mexico	5	0
New York	33	25
North Carolina	2	0
North Dakota	1	0
Ohio	88	98
Oklahoma	0	6
Oregon	0	2
Pennsylvania	3	13
Rhode Island	1	0

South Carolina	0	1
South Dakota	1	2
Tennessee	3	2
Texas	0	3
Utah	1	0
Vermont	1	0
Virginia	1	0
Washington	0	1
West Virginia	0	5
Wisconsin	62	74
Wyoming	3	0
Canada	47	55
Other Foreign	0	4
Total	523	517

W. J. V. D.

What Is Happening to Diphtheria?

To those of us who have been watching the progress of diphtheria over a period of years, the thought naturally arises as to what is going to happen. Diphtheria is not a disease of marked periodicity, but history tells us that there have been waves of diphtheria sweeping over the world at intervals, with apparently increasing virulence at times. The last few years have been marked by great activity on the part of health departments in their efforts to control this disease. To what extent the remarkable downward trend of recent years is due to a natural decline and how much of it is due to immunization is very hard to determine.

During the first four months of 1935 there were reported for the state 178 cases of diphtheria, as compared with 236 in the corresponding four months of 1934. This is a decrease of 25 per cent. Comparing this to the mean for the first four months for the last five years, we find a decrease of 71 per cent.

If we go further and compare these figures with those for 1921, the year in which there were more cases of diphtheria reported than in any other year in the record history of Michigan, we find that during the first four months of 1921 there were reported 4,008 cases, as compared with the 178 cases for the same period in 1935, just fourteen years later. This is a decrease of 95.5 per cent.

Should there be a tendency within the next few years for this disease to rise again in one of its waves, the state will have the advantage of the great amount of immunization that is being carried on in practically all sections, and the children of Michigan should be in a better position to resist diphtheria than ever before. It is hoped that no such wave will come, but we cannot afford to relax for one moment our efforts to put the state in the best possible position to meet such an event.

AN UNUSUAL CASE

Eugene F. Traut, Oak Park, Ill., reports the case of a woman, aged 26, who within a period of three weeks (previously healthy) developed stupor accompanied by fever, leukocytosis and bacteremia. The spinal fluid was clear but showed pleocytosis, increased globulin and an abnormal colloidal gold curve. The febrile stage and the deep stupor lasted three weeks. Various chemicals, vaccines, serums and hyperpyrexia were used. They are not known to have altered the course of the illness. Excepting occasionally scopolamine for sleep, she has had no medication since Feb. 28, 1934. She was given more than 1,000 feedings by nasal catheter without developing aspiration complications. The patient is very well nourished and has good color. Her muscles are large and strong. She has not spoken or made any purposeful movements except those of defense. She lies inattentive with shut eyes most of the time. The pupils do not react to light or in accommodation. The left great toe is constantly and rigidly hyperextended. She is fed by spoon or a catheter in the mouth. (*Journal A. M. A.*, April 6, 1935.)

COMMUNICATIONS

May 31, 1935

Burton R. Corbus, M.D.
Grand Rapids, Michigan

Dear Dr. Corbus:

We are directing this communication to you, first, because we have an important duty to perform in connection with it, and, secondly, because you are in position to be of assistance to us in arriving at the basis of a task which is vitally important to the health of Michigan working men and women.

Act Number 119 of the Public Acts of 1911 provides that:

"Every physician attending or called upon to treat a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury, or their compounds, or from anthrax, or from compressed air illness, contracted as a result of the nature of the patient's employment, shall send to the state board of health, who shall transmit to the commissioner of labor a notice stating the name, postoffice address and place of employment of the patient, the length of time of such employment, and the disease from which, in the opinion of the physician, the patient is suffering.

"Any physician who shall fail to make any report required by the preceding section, or who shall wilfully make any false statement in such report, shall be deemed guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not more than fifty dollars.

"It shall be the duty of the commissioner of labor and of the prosecuting attorney of the county where any one violating the provisions of this act may reside, to prosecute all violations of the provisions of this act which shall come to the knowledge of them or either of them."

The information which this law requires is of inestimable value to the Department, and the physicians are the only ones who can furnish it. It will enable us to investigate and remedy the conditions which have and are constantly contributing to these ailments. It will aid us materially in improving the health situation of the state.

Your immediate and hearty coöperation will be deeply appreciated.

Very truly yours,

FRANK B. WADE,
Commissioner of Labor.

An Important Medico-Legal Verdict

Editor, Journal Michigan State Medical Society:

By request I gave the alleged facts of a malpractice case which I recently tried, to a group of doctors, and it was suggested that I prepare a brief statement to be published in the State Medical Journal to illustrate how far reaching are the claims today made against physicians and surgeons.

The allegations in the suit to which I refer consisted of charging a surgeon with negligence in failing to properly diagnose the condition of a patient's eye. The diagnosis made was "melanoma or melanoma sarcoma, either of which might be malignant."

The plaintiff was sent by a Veterans' Hospital and accompanied by the physician in charge of the hospital to the defendant's office to have his eyes examined and after the usual examination for glasses the doctor, in the dark room, used an ophthalmoscope and then, on account of the unusual condition of the eye, asked a consultation from another specialist, and while they both had a definite opinion as to the condition they did not tell the patient but advised that he be taken to an eminent specialist in Chicago who was connected with the Veterans' Hospital for examination. The doctor who originally made an examination of the defendant in this suit

agreed to pay the expenses of the patient to Chicago and return in order that he might have the benefit of a renowned authority. This was done and the condition of the eye was pronounced melanoma or melanoma sarcoma by the surgeon in Chicago, which diagnosis was confirmed by the defendant in this case.

The plaintiff refused to adopt the opinion of the Chicago specialist and said that he desired to go to Detroit for further examination, which he did, and he was examined by an eye man connected with the Veterans' service in Detroit, and also by four specialists of unquestioned skill in Detroit and the plaintiff was advised by the physician in the Veterans' Bureau that he did not believe that there was a malignant condition in the eye but that he hoped that he would go to other specialists, as he might be deceived. None of the other physicians pronounced the disease malignant but said it might be and advised the patient to have himself watched carefully.

For some time before this examination the patient had been suffering from pulmonary tuberculosis and he claimed that on account of the shock received from the diagnosis given, which he claimed to be a wrongful diagnosis, his tubercular condition became greatly aggravated and he lost weight through nervousness, inability to sleep, inability to eat, all of which he blamed on the defendant for his alleged wrongful diagnosis.

Depositions were taken of eminent men in the field of tuberculosis and of the eye, and witnesses came from Chicago to identify the picture taken of plaintiff's eye, and also the assistant of the specialist in Chicago was present and testified as to what he saw, as the specialist in the meantime had died. It was necessary to bring the actual operator of the machine which was used to take the picture as counsel for plaintiff would not agree to admit the photograph unless it was identified by the person who made it, and under the rules of evidence it was necessary to bring the person who took the picture from Chicago to identify it. The original plate was not available but the photograph was admitted on the testimony that it had been compared with the original plate and it was an actual reproduction from the plate.

After the trial, which lasted for seven days, the case was submitted to the jury but the Court took away from their consideration the question of aggravating damages resulting from shock because there was no physical injury but only the alleged wrongful diagnosis, basing his decision on the case of *Nelson v. Crawford*, 122 Mich. 466, which was the first case in this state to hold that there could be no recovery simply for nervous shock unaccompanied by physical injury.

This case established what was known as the "Michigan rule" in opposition to the so-called "Texas rule" which held there could be recovery for nervous shock unaccompanied by physical injury.

The Court, however, did submit to the jury for its consideration the question of the money which the plaintiff claimed he had expended in traveling about the country and for money which he had expended for doctor bills for further examination, provided the jury held that there was error in the diagnosis which constituted negligence, and I might add in this connection that under the law of this state there is no liability for an error in diagnosis provided the physician uses the usual and ordinary methods employed in like localities in making his diagnosis. In other words, he is not liable for an honest mistake of judgment if he uses the means ordinarily used in this and like localities in arriving at this diagnosis.

The jury returned a verdict of no cause for action against the doctor.

This case is novel in that (1) it is the first malpractice action of its kind to be brought in Michigan; (2) because the court re-affirmed the doctrine in the case of *Nelson vs. Crawford*, which was decided in 1899, that there could be no recovery in a malpractice action where there was only nervous shock and no physical injury; (3) because the court restated the doctrine that a physician or surgeon is not responsible for an honest mistake of judgment provided he uses the proper methods of diagnosis; (4) as illustrating the necessity of using the approved methods in arriving at a diagnosis, and illustrating how far reaching are claims now being made against reputable physicians and surgeons.

HERBERT V. BARBOUR,

Attorney for the Michigan State
Medical Society.

Detroit, June 22, 1935.

GENERAL NEWS AND ANNOUNCEMENTS

The annual meeting of the Michigan State Medical Society will be held at Sault Ste. Marie September 23 to 26, inclusive.

* * *

The symphony orchestra composed of members of the Wayne County Medical Society will broadcast over the radio this fall. The particular station and time has not yet been announced.

* * *

The Beaumont Foundation lectures under the auspices of the Wayne County Medical Society have appeared in this Journal. The 1935 lectures by Dr. Lewellys F. Barker may be obtained in book form, bound in cloth, by mailing one dollar to the Beaumont Foundation, Wayne County Medical Society, 4421 Woodward Avenue, Detroit.

* * *

The 1935 Michigan Legislature amended the Osteopathic Law (act number 162 of the public acts of 1903) on the last day of the Session. The amendment, however, according to the analysis of the amended law by the Detroit Medical News, does not give osteopaths equal rights with physicians. The amendments appear to concern only osteopaths within the cult.

* * *

According to a recent news item from Washington, a demand that a \$2,000,000, 600-bed veterans' hospital be built in Michigan, if any money from the \$4,000,000,000 work-relief fund is used for any hospital project, has been made on General Frank T. Hines, veterans' administrator, by a group representing Michigan veterans. General Hines agreed, after a conference with Frank A. Picard of Saginaw, Representative Albert J. Engel of Lake City and representatives of all veterans' organizations, to advocate construction of the hospital to the Government's hospital committee.

* * *

Shakespeare's Psychopathological Knowledge: A study in Criticism and Interpretation, is the title of a unique paper by Dr. Irving I. Edgar of Detroit which appeared in Volume 30, Number One of *The Journal of Abnormal and Social Psychology*. The paper is the result of the author's research on this

interesting subject. Dr. Edgar's position is that Shakespeare was above all an artist and portrayed the characters of Elizabethan England as he observed them, or where his plays are based on chronicles he took the characters as he found them, that he did not possess the knowledge of neuropsychiatry as developed three centuries after his time.

* * *

The sympathy of his many friends in the profession is extended to Doctor F. C. Warnshuis, whose youngest son, Robert, died very suddenly on June 9, 1935. Robert was twenty-four years old. He was employed by the Bruce Publishing Company of St. Paul, the publishers of our Journal. He was a young man of great promise with a personality which had made him many friends.

The word of his death came to Doctor Warnshuis upon his arrival at Atlantic City. With great courage, he immediately left for Grand Rapids and returned by plane from the funeral to preside as Speaker on the second day's session of the House of Delegates.

* * *

Dr. W. H. McCracken, Dean of the Detroit College of Medicine, now the Medical Department of Wayne University, has tendered his resignation owing to ill health. He will, however, maintain his connection with the college as Professor of Pharmacology. His successor has not yet been appointed. At the meeting of the Board of Education, June the eleventh, Dr. W. J. Stapleton, of Detroit, was appointed assistant dean of the College. Dr. Stapleton, who has practised medicine in Detroit for over thirty years, is well and favorably known to the medical profession of the state as former chairman and present secretary of the Executive Board of Medical Defense and also as chairman of the radio committee.

* * *

Bill 277

The disposition of cases of indigent afflicted adults and afflicted children of indigents has been a matter of concern of the medical profession of the state for a long time. Legislation has been passed requiring that these patients be cared for in hospitals and by physicians of the county in which such patients live, with the understanding that the state would pay the hospital and the county would reimburse the physician or surgeon. In some counties this arrangement has been satisfactory; in others the hospital received its remuneration from the state but the county, owing to lack of funds or other reason, failed in its duty to the physicians. It was finally agreed that the county pay for major surgical operations at the rate of \$30.00 each and other operations in proportion. Bill 277, which was introduced into the Michigan legislature the past session, required the state to undertake the payment of the surgeon and, in medical cases, the physicians as well as the hospital. The bill was passed. Problems arising out of the application of the law have been more or less confusing, and a source of much study and effort on the part of the crippled children's commission and members of the medical profession. No very definite arrangement appears to have been arrived at to date. In view of this and the fact that this Journal comes out monthly, members are advised to write their councillor for any latest developments in the meantime.

* * *

Northern Tri-State Medical Society

The Executive Board of the Northern Tri-State Medical Society held its Annual Meeting at the Detroit Boat Club on June 12. The financial, membership and social reports were all of an exceedingly gratifying nature and reflected marked progress

and improved standing in this progressive Tri-State organization.

Present at the meeting and at the dinner were: Drs. H. E. Randall, W. H. Marshall of Flint, Edward P. and Norris Gillette of Toledo, E. B. Pedlow and Beauchamp of Lima, Ohio, also Jones of Lima, B. L. Thutt of Elida, Ohio, G. O. Larson and J. N. Kelly of LaPorte, Ind., and L. T. Rawles, J. E. Sparks, H. M. Senseny, and H. A. Ray of Ft. Wayne, Indiana. Dr. Wm. Donald of Detroit acted as host, and ex-officio Counsellor.

The Tri-State Medical Society next meeting will be held in April, 1936, at Fort Wayne, Ind., under the leadership of Dr. Edw. Gillette, Toledo, President, and Dr. Jon Kelly, LaPorte, Ind., Secretary. The following year the meeting is to be held at Jackson, Michigan.

* * *

A. M. A. Atlantic City Meeting

Michigan was well represented at the eighty-sixth annual session of the American Medical Association held at Atlantic City, June tenth to fourteenth. Many doctors drove to the convention. The scientific sessions were of a joint nature with the Canadian Medical Association. The house of delegates of the American Medical Association elected Dr. Nathan B. Van Etten to succeed Dr. F. C. Warnshuis as speaker and Dr. H. Shoulders of Nashville, Tennessee, was elected to succeed Dr. Van Etten as vice-speaker. Dr. James Tate Mason was made president-elect. Dr. Mason, who is 53 years old, has practiced Surgery in Seattle since 1905. He was graduated from the Medical Department of the University of Virginia in 1905. Dr. Mason, besides being a member in the American Surgical Association, American Association for the Study of Goitre and Fellow of the American College of Surgery, has a splendid record as a contributor to surgical literature.

The eighty-seventh annual meeting will be held in Kansas City.

The reports of the various standing committees are of interest. They appear in full in the *Journal of the American Medical Association* for June 22, and should be carefully studied by every member.

* * *

Post Graduate Medicine

The annual luncheon tendered to those instructors who took part in the post graduate courses in Detroit under the auspices of the post graduate department of the University of Michigan was held at the Wayne County Medical Society clubrooms, June 18; about sixty members were present. Dr. J. M. Robb presided. Dr. J. D. Bruce, director of post graduate medicine and vice president of the University, addressed the assembled instructors, tracing the growth of the movement. From small beginnings, last year witnessed an enrollment of over eleven hundred. The present year bade well for an enrollment of over fifteen hundred. Michigan leads in the systematizing of post-graduate medical studies. He spoke of the necessity of such work, not only for general practitioners, but also for specialists. Dr. Bruce spoke of the demand for special training for those who offered themselves as specialists.

Public health education was also an important matter. About twelve years ago the joint committee on public health education was formed. During its activity as many as 240,000 had been reached among high school students and parent-teacher associations and other organizations. The university had already an organization in its university extension work so that it seemed expedient for the extension department to administer this phase of the work, of the

joint committee. The depression had greatly lessened the activity of the joint committee owing to the depletion of finances. Dr. Bruce expected that the work of the joint committee would soon be resumed with greater vigor than ever. An enlightened public should go hand in hand with a progressive medical profession.

In conclusion, he emphasized the importance of what he termed personal preventive medicine. Public health and prevention of disease had been very satisfactorily cared for as seen in the conquering of such infectious diseases as typhoid, diphtheria, small-pox and others. There is, however, a large field in the matter of prophylaxis, against nervous disorders and such diseases as affect the cardiovascular and cardiorenal systems.

OF GENERAL MEDICAL AND SURGICAL INTEREST

BASIC SCIENCE BOARDS

There are now nine states which have basic science boards, and a basic science law has recently been enacted in Iowa. Moreover, such laws are pending in a number of other states. The figures as to the operations of the boards are significant. Of the physicians examined by such boards last year, 11 per cent failed; of the osteopaths, 36.7 per cent failed; of the chiropractors, 69.2 per cent failed, and of those unclassified, 62.5 per cent failed. Figures of this kind should indicate more definitely than any argument the importance of establishing minimum standards of education for all who propose to heal the sick. The data indicate equally the fact that this minimum of education is not available to the vast majority of osteopaths, chiropractors and other cultists who wish to practice the healing art. The records for the period 1927 to 1934 are even more convincing. From the percentage of failures in the non-medical group, it is clear that the basic science boards render a most valuable service to the people of the states which have established such restrictions on those in the practice of medicine. The basic science board is particularly desirable in those sections which have a multiplicity of examining boards, giving the people the security that comes with the knowledge that those who practice any form of healing have at least a certain minimum qualification in the way of general education.—(*Journal A. M. A.*, April 27, 1935.)

SLIGHT AND LATENT JAUNDICE: SIGNIFICANCE OF ELEVATED CONCENTRATIONS OF BILIRUBIN GIVING INDIRECT VAN DEN BERGH REACTION

Hendrik M. Rozendaal, Mandred W. Comfort and Albert M. Snell, Rochester, Minn., analyzed 214 cases in which the concentration of the bilirubin was 2 mg. per hundred cubic centimeters of serum or greater, and in which the van den Bergh reaction was indirect. In 138 cases, hemolytic disease was absent; in seventy-six cases it was present. Increased concentrations of bilirubin in the cases in which hemolytic disease is absent means, in their opinion, hepatic dysfunction. The dysfunction has been found to be either constitutional or secondary to hepatic injury. In hemolytic disease, excessive hemolysis is the accepted explanation of the in-

creased concentration of bilirubin. The almost universal presence of some degree of hepatic injury associated with hemolytic disease suggests, however, that hepatic injury and dysfunction may also be partly responsible for elevation of the concentration of bilirubin. The indirect reaction supposedly rules out the presence of hepatic injury. Actually, however, bona fide hepatic disease has been demonstrated in many cases of this series. Moreover, the authors have witnessed the van den Bergh reaction change from direct to indirect during convalescence from the hepatic injury while increased concentration of bilirubin was still present. The concentration of bilirubin subsequently returned to normal. They have also seen increased concentrations of bilirubin in serum which never had given a direct van den Bergh reaction return to normal concentration as the process of reparation in the liver proceeded. For these reasons, it appears that an indirect reaction in serum containing bilirubin in amounts more than normal does not always mean hemolytic disease and in fact may definitely point to associated hepatic injury. Some patients who complain of being bilious actually have slight hepatic dysfunction. The dysfunction may be constitutional or secondary to hepatic injury. It is not clear that all symptoms actually are due to the hepatic dysfunction, but it is probable in some instances that the hepatic dysfunction may be only one of the manifestations of a widespread sympathetic or toxic reaction. The evidence strongly suggests that among patients who have constitutional dysfunction of the liver, at least of a degree great enough to produce jaundice, disease of the gallbladder is prone to develop. Of the cases studied, in 29 per cent cholecystic disease already has developed. The percentage may increase as these patients grow older. The mechanism for secretion of bilirubin is a sensitive one. It is influenced by emotion and by disturbances of the sympathetic nervous system, as well as by minor degrees of hepatic injury. An increased concentration of bilirubin may be the one laboratory evidence of dysfunction and it should be used more widely. It will in all probability disclose many unsuspected cases of mild functional and organic disturbances of the liver as well as a group of individuals of a constitutional type especially susceptible to disease of the gallbladder.—(*Journal A. M. A.*, Feb. 2, 1935.)

TREATMENT OF ACUTE EMPYEMA IN CHILDREN

In eight cases of unilateral empyema in children, Harry Koster, Jacob Rosenblum, Louis P. Kasman and Henry Lerner, Brooklyn, employed induction and maintenance of an artificial pneumothorax on the sound side to favor drainage and cause earlier obliteration of the empyema cavity. The method was developed following the observation in one case of bilateral empyema that drainage instituted on the side more markedly affected resulted in clearance of the suppuration within seven days. It seems that the most likely explanation for the phenomenon was that the compression of the untreated side by the effusion resulted in more rapid expansion of the lung on the side of which drainage had been established. Immediately after the administration of the pneumothorax the patients began to breathe more rapidly and more deeply. The increase in amplitude of respiration was especially noticeable on the side of the empyema. A short time after this there was a copious purulent discharge from the drainage tube. In most cases the increase in rate and depth of respiratory movements was unattended by any subjective respiratory distress. In one instance there

was moderate dyspnea, and this was accompanied by a forceful ejection of pus from the empyema cavity. Two children complained of slight pain in the chest and shoulder for three or four minutes following the administration of pneumothorax. Following the introduction of the artificial pneumothorax in these cases, the clinical appearance of the patient became markedly improved. The temperature fell rapidly, so that the average duration of fever in the uncomplicated cases was less than seven days. Pocketing was not noticed. The appetite improved quickly and the children gained weight rapidly. By the fourth day after the introduction of the first artificial pneumothorax, most of the pus had been evacuated from the chest. There was very little drainage at that time and the cavity became smaller as the lung expanded. Between the seventh and the tenth day after the introduction of the first artificial pneumothorax, the cavity was usually too small to contain 25 c.c. of surgical solution of chlorinated soda. The average period until there was no more drainage of pus was 13.7 days after the thoracotomy. The obliteration of the cavity is demonstrated by comparisons of x-ray films taken before and after the introduction of the artificial pneumothorax. The only complication was subcutaneous emphysema in two cases, which disappeared in from two to four days.—(*Journal A. M. A.*, April 27, 1935.)

CLINICAL MUTATIONS IN LYMPHOBLASTOMAS

Udo J. Wile and Frank Stiles, Jr., Ann Arbor, Mich., report a case of unusual duration showing definitely a mutation from clinical mycosis fungoides to Hodgkin's disease. When first examined in 1921 it presented the features emphasized by Ormsby in the differentiation of mycosis fungoides from the other lymphoblastomas, while at a later date it gave the characteristic changes of Hodgkin's disease. If one is to believe that the two conditions are distinct entities, there are but two ways to explain this case: first, that it is a case of mycosis fungoides in a patient who has later developed Hodgkin's disease also and, second, that the disease was originally a case of Hodgkin's disease which was at first misinterpreted as mycosis fungoides and only later recognized. The first explanation seems a poor one, since it requires two diagnoses to explain a condition that has been continuous. The second explanation also seems inadequate, since this case in the early part of its course possesses all the characteristics that identify the premycotic stage of mycosis fungoides as an entity. A more logical explanation, and one that is easier to understand, is that this case presents a malignant disease of the lymphoid tissues, first involving the lymphoid structures in the skin and producing the picture that is recognized as mycosis fungoides, and later involving the lymph glands themselves, producing the picture that dermatologists have learned to classify as Hodgkin's disease. In the slow growing types of lymphoblastoma there are apt to be more fibroblastic proliferations. Fibrosis in the lymph glands in Hodgkin's disease is one of the important diagnostic changes, and this is well marked in this particular case. It is interesting to note that this case has shown unusually slow progress, the known duration extending over a period of eighteen years. It is not improbable that the irradiation received by the patient has been influential in preventing the late picture of mycosis fungoides and may have been influential in the production of fibrosis, which constitutes an important part of the pathologic picture in Hodgkin's disease.—(*Journal A. M. A.*, Feb. 16, 1935.)

THE DOCTOR'S LIBRARY

Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.

CLINICAL LABORATORY METHODS AND DIAGNOSIS. A Textbook on Laboratory Procedures, with their interpretation by R. B. Gradwohl, M.D., Director of Gradwohl Laboratory, St. Louis. Cloth. Price \$8.30. Pages 1025. 328 Illustrations, 24 color plates. C. V. Mosby Company, 1935.

Gradwohl's new textbook on Clinical Laboratory Methods and Diagnosis is a veritable library in a single volume. Were this book presented in a thin paper edition, it would serve as an excellent "vade mecum" for all interested in laboratory procedures.

The author, well qualified through long years of teaching and actual experience in laboratory technic, has brought together, within a single volume, every worthwhile laboratory procedure. The technic of each laboratory test is given in detail, and described so that the "pitfalls and errors" in the performance of tests are easily avoided.

The illustrations, for the most part, are entirely new, and the numerous colored charts are of distinct aid. In addition to the usual chapters on hematology, parasitology, bacteriology and pathology, one finds space given to postmortem examinations and toxicological technic.

A final chapter covers the listing of the minimum supplies and equipment for the establishment of a pathological laboratory.

J. S. B.

PHYSICAL DIAGNOSIS. By Warren P. Elmer, M.D., B.S., Associate Professor of Clinical Medicine, Washington University, School of Medicine; Assistant Physician to Barnes Hospital; Physician-in-Charge, Missouri Pacific Hospital; Consulting Physician to Jewish Hospital, St. Louis, and St. Louis County Hospital, and W. D. Rose, M.D., late Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Seventh Edition. St. Louis: The C. V. Mosby Company, 1935.

In this edition, Part I, is devoted to subject matter, which is found to be of use in making a physical examination of the normal subject. Inspection of the entire body is discussed at length. The findings in the normal body are made plain by the use of photographic illustrations. Under the subject of palpation, attention is given to palpation of the radial pulse. The author believes that much information as to the condition of the circulatory apparatus can be gained by this means. Normal and abnormal percussion sounds are discussed and the physiologic explanation for many abnormal percussion phenomena is given. Normal auscultatory signs in both respiratory and circulatory systems are given and various deviations from the normal, together with the mechanics of their production, are explained. Special diagnostic procedures, as thoracentesis and spinal puncture, have their significance explained and the method of procedure is given.

Sherwood Moore, M.D., Professor of Radiology, Washington University, School of Medicine, gives an outline of the physics involved in the production of x-ray and in its application to the human body as a diagnostic instrument. He traces the development of contrast radiography and gives a comprehensive discussion of the variations in radiographic density of various structures and the use of x-ray in differentiating them.

Drew Luten, M.D., Associate Professor of Clinical Medicine, Washington University, School of

Medicine, gives a general discussion of the subject of electrocardiography. While he makes no pretense of comprehensiveness, by means of reproductions of electrocardiograms, he enables the student to acquire some knowledge of the subject.

In Part II, the author takes up the various diseases of the respiratory and circulatory systems. He gives their clinical pathology and follows with a discussion of their physical signs. The use of x-ray is explained and x-ray findings are described and illustrated. Electrocardiographic tracings are shown and their significance is explained.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Dermatology, University of Kansas, School of Medicine, and Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.), Assistant in Dermatology, University of Kansas, School of Medicine with 1310 illustrations, and 11 colored plates. Ninth Edition, Revised and enlarged. St. Louis: The C. V. Mosby Company, 1935.

In this edition, the arrangement of the subject matter is much the same as in previous editions. Considerable attention is paid to the anatomy and physiology of the skin. The general symptomatology and diagnosis of skin disease is discussed in a manner that appeals to the student and practitioner. The subject of treatment in general is well covered. Such methods of treatment, as actinotherapy, Roentgen and Grenz rays, radium and mesothorium are given due consideration. High frequency and fulguration currents, together with desiccation and endothermy, are also discussed. A bibliography, which is given at the end of the discussion of each subject, is very complete, giving references to both the American and foreign literature. Illustrations are invaluable in a work of dermatology. This book is replete with good illustrations. Some are in color. In his treatment of each dermatologic condition, Doctor Sutton leaves little to be desired. His description of symptoms and signs is thorough and complete. His discussion of etiology and of pathology is full. Prognosis and diagnosis are given. His handling of the subject of treatment of each condition is not excelled. In the preparation of this ninth edition, Dr. Richard L. Sutton, Jr., who has aided his father in some previous editions, has written the descriptions of several diseases and conditions that have been included for the first time in this edition.

THE PRINCIPLES AND PRACTICE OF UROLOGY: By Frank Hinman, A.B., Leland Stanford Junior University; M.D., Johns Hopkins Medical School. Clinical Professor of Urology at the University of California Medical School. 1111 pages with 513 illustrations and 48 tables. Cloth, \$10.00 net. Philadelphia and London: W. B. Saunders Company, 1935.

The purpose of this work is "the presentation of the principles of urology in a form which would be of practical use to the medical student and the man in general practice." It includes everything necessary for the teaching of medical students. The physician in general practice will find it entirely satisfactory for his needs. Anything outside the scope of this work belongs to the specialist in urology. An interesting feature of this book is the section on comparative anatomy dealing with urinary excretion, reproduction and comparative anatomy of the urinary and genital association and of the urogenital union. Then follow chapters on embryology and normal structure and function. There is among others an interesting chapter on radiography which is hardly within the ambit of the general practitioner. Perhaps the same might be said also of cystoscopy. However, these procedures are important and the general practitioner should understand the significance of the findings. The author rightly

maintains that no examination of the kidneys is satisfactory without an x-ray examination and gives an instance of renal insufficiency due to a large stag-horn calculus which gave no backache nor hematuria. The work is well illustrated and completely indexed. It is authoritative and will be found to meet the requirements of the class of reader for whom it is designed.

CLINICAL MANAGEMENT OF SYPHILIS: A Handbook for Everyday Practice. By Alvin Russell Harnes, M.D., Chief of Congenital Luetic Clinic, New York Hospital. Price \$1.50. New York: The MacMillan Company, 1935.

The author has presented the subject of therapy of syphilis in great detail. He has emphasized certain points in the every-day treatment of the disease which are not commonly known. Among these the importance of special laboratory examinations; he advocates the practicing of treating every syphilitic woman during each pregnancy, whether she has been previously treated or not. There are presented day-by-day and week-by-week tables indicating medication for a period of three years. The work comprises only sixty-five pages, including a number of illustrations; both illustrations and text will be found invaluable to the general practitioner who is confronted with the problems of treating syphilitic disease.

THE KIDNEY IN HEALTH AND DISEASE. In contributions by eminent authorities. Edited by Hilding Berglund, M.D., and Grace Medes, Ph.D., with the collaboration of G. Carl Huber, M.D., Warfield T. Longcope, M.D., and Alfred N. Richards, Ph.D., M.D. 754 pp. Illustrated with 163 engravings. Phila.: Lea & Febiger, 1935.

This work on the kidney is arranged in six major sections dealing with (1) Anatomy and physiology, (2) Clinical aspects of renal functions, (3) Bright's disease and various other pathological renal conditions, (4) Albuminuria and edema, (5) Ocular changes in Bright's disease and (6) Clinical aspects of Bright's disease. Forty authors cooperated in the work and most are widely known as authorities on the kidney. Several chapters are written by German, Dutch or Swedish workers.

In 1930, a symposium on the structure and function of the kidney in health and disease was held in Minneapolis and the material covered during the symposium, supplemented by subsequent studies, represents the substance of the present volume. The work is indexed and is well documented by references.

DOCTORS AND JURIES: The Essentials of Medical Jurisprudence. By Humphrey Springstun of the Detroit Bar. Philadelphia: P. Blakiston's Sons and Company, 1935. Price, \$2.00.

The members of every profession or vocation should have a clear understanding as to their position before the law in any community. The physician with whom this little work is concerned should have a clear understanding of his rights and liability. Mr. Springstun had made this possible in an interesting non-technical little work of one hundred and fifty-five pages. There is nothing in it that one practicing medicine should not know and on the other hand he should be conversant with all the subjects discussed in its twenty-eight chapters. Physicians unaccustomed to appearing in court

as witnesses are apt to be terrified when the occasional time arrives when they are called to testify before judge and jury, and many times they make a sorrowful spectacle. There are works on medical jurisprudence that are very complete but very few of them are in medical libraries of physicians and they are more rarely consulted than any other book pertaining to the practice of medicine and surgery. Mr. Springstun's book can be read in a single evening or two. He gives good advance on testifying and the function of the expert witness. One of our members, Dr. William J. Stapleton, Jr., who, as is well known, possesses also a degree in law, has written the introduction in which he commends the work for its clarity and simplicity of diction. This work will give the doctor an introduction to the law as it effects his profession. Now will somebody write a book that will give the lawyer a similar introduction to medicine?

ADAM POLITZER

One hundred years ago Dr. Adam Politzer was born. He was professor of Otolology at the University of Vienna. The laity knows about Politzer on account of the world-wide use of the Politzer air douche in treatment of the ears. The medical profession knows Politzer on account of his outstanding pioneer work in otology, on account of his textbook which has appeared in many editions, on account of his magnificent history of otology and his many other contributions. Politzer's textbook is still the "otologic bible." We have known Politzer and keep a warm memory of him not alone as a teacher, but as a man. His modest personality, his zeal and industry, his dignity, his quiet unassuming elegance of manners could not fail to leave a lasting impression on everybody who met him. Instinctively one felt that one was in the presence of a great man. When in September, 1907, Professor Politzer gave up his chair at the University on account of his age, the otologists of the world united in honoring him. We read in the memorial address of his friends and pupils the following: "Thousands are the number of those who have received instruction and knowledge at this place but innumerable are those who are indebted to you for the cure of their ills and the continuation of their health and their lives. A small and little appreciated special branch of medicine, laying somewhat distant from the main road, has become, during these forty-five years, an acknowledged, even a prominent, comprehensive branch of medicine with full rights. It has become a systematically ordered edifice based on a sum of therapeutic and diagnostic facts, which rests on a firm anatomic-physiologic foundation, which understands and explains the pathologic changes and their outer signs and which is based on a rational therapy which dares to solve tasks, successfully, which have been considered unsolvable, decades ago. The history of this tremendous progress is also the history of your work. Please accept the homage of those mentioned here as the representatives of a far larger number of men, distributed over all countries and continents, who look up to you as master and teacher, who is, by right, justified to carry the title of another 'Magister Orbis.'" Politzer lived a full life. He did pioneer work in his field. His industry was phenomenal. With all the respect and appreciation laid willingly at his feet, he remained modest and unassuming, seeking his recreation in the arts in order to gather always new strength for his task to teach and to help the afflicted. "The trace of days, he spent on earth, in eons will not perish."—Schiller.

DR. EMIL AMBERG.